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KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

November 15, 1982

Projects Department
East Asia and Pacific Regional Office

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CURRENCY EQUIVALENTS

Currency Unit	= Won (W)
US\$1	= W 740
W 1	= US\$0.001351
W 1 million	= US\$1,351

MEASURES AND EQUIVALENTS

1 millimeter (mm)	= 0.03937 inches (in)
1 meter (m)	= 39.37 inches (in)
1 square meter (sq m)	= 10.8 square feet (sq ft)
1 cubic meter (cu m)	= 35.3 cubic feet (cu ft)
1 kilometer	= 0.62 mile (mi)
1 hectare	= 10,000 sq m or 2.471 acre or 3,024 pyongs (py)
1 pyong (py)	= 3.307 square meter (sq m) or 35.586 square feet (sq ft)
1 liter (l)	= 0.264 US gallon (gal) or 0.220 Imperial gallon
1 liter per capita per day (lcd)	= 0.264 US gallon per capita per day (gcd)
1 metric ton (mt)	= 1,000 kilograms (kg) or 2,240 pounds (lb)
1 metric ton per day (mtd)	= 1,000 liters per day of water (approx.)

ABBREVIATIONS AND ACRONYMS

CNB	-	Citizens National Bank
EPB	-	Economic Planning Board
FYP	-	Five-Year Plan
GNP	-	Gross National Product
KHA	-	Korea Housing Association
KHB	-	Korea Housing Bank
KLDC	-	Korea Land Development Corporation
KNHC	-	Korea National Housing Corporation
KRIHS	-	Korea Research Institute for Human Settlements
MOC	-	Ministry of Construction
MOC-HB	-	Ministry of Construction/Housing Bureau
MOC-LB	-	Ministry of Construction/Land Bureau
MOF	-	Ministry of Finance
NHF	-	National Housing Fund
OSROK	-	Office of Supply, Republic of Korea
ROK	-	Republic of Korea
CPL	-	City Planning Law
LR	-	Land Readjustment

GOVERNMENT OF KOREA FISCAL YEAR

January 1 - December 31

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I. SECTOR BACKGROUND

A. Introduction

1.01 Korea's urban ^{/1} population (23 million of a total population of 38 million in 1980) has been increasing at more than three times the rate of the total population, by an estimated annual rate of 5%, between 1975 and 1980, compared to about 1.5% for the national population during the same period. Household sizes are becoming smaller (5.06 persons per household (p/hh) in 1981 compared to 5.44 p/hh in 1975), resulting in even more rapid growth of urban households - 7% annual increase during the same period. About 60% of the country's households are estimated to live in urban areas; by 1991 this level is projected to grow to 75%, comparable to most developed countries. This rapid urbanization and growing personal incomes had put great pressure on urban housing markets by the mid-1970s, stimulating growth in housing production levels and, with supply lagging, inflation in the housing sector.

1.02 During 1979 and 1980 government began to develop specific measures to increase output of both the public and private sectors and issued a "Master Plan for Public Housing Construction and National Urban Land Development" in October, 1980. This plan included quantitative targets for increasing housing production and investment; expanding the public sector role; and measures to reduce cost, increase supply of funds and to provide incentives for developers and builders. The Bank participated in discussions on these and other measures with the government as part of a dialogue on the development of the housing sector and Bank support for the sector. This dialogue resulted in the First National Urban Land Development and Housing Project (Loan 1980-KO, in May 1981).

1.03 The most important developments in Korea in the urban sector since the first project was appraised have been the continuing decline in housing production, from 250,000 units in 1979 to about 150,000 in 1981, along with an associated worsening ratio of housing units to households, down to 73.7 nationwide in 1981 from 76.5 in 1979 (60.1 in cities, down from 60.4); the publication of the Fifth Five-Year Economic and Social Development Plan, 1982-1986, (Fifth Plan) and subsequent policy initiatives designed to reverse this decline. The government has made it a priority to address the problems which have accompanied urban growth over the past 20 years. The Fifth Plan emphasizes meeting basic needs of urban dwellers and improving the quality and availability of urban services. Housing, water supply and

^{/1} Defined as city areas in the 1980 census. This understates urban population compared to previous definitions which indicated towns with populations of over 20,000. Including such towns would result in 67% of the population defined as urban.

sewerage, urban transport and general infrastructure are the primary components of the government's urban development strategy, and among these, housing is the first priority. The Bank supports this strategy, emphasizing policy and institutional development through an ongoing dialogue with the government. This chapter summarizes the policies and performance in the sector during 1980 and 1981, the current status of the sector, recent policy developments including housing in the Fifth Plan, prospects for the future, and Bank role and strategy in the sector in Korea.

B. The Housing Sector in Korea

Policies and Performance During 1980 and 1981

1.04 By 1978 housing production in Korea hit a peak of 300,000 units for the year, 185,000 provided by the private sector, and housing investment as a percentage of Gross National Product (GNP) rose to 6.0%. However, between 1965 and 1978 average rates of increases of land and housing prices were exceeding those of wages and prices by significant margins. Average annual wage increases for the period were 25.9%, general price increases (Consumer Price Index) averaged 13.7% annually, while residential land prices rose 39.9% yearly, and housing prices, 30.1%. These circumstances prompted the government to introduce a number of measures between February and December 1978 to dampen what was perceived as speculation-induced inflation in the housing market including, inter alia, designating areas/¹ where capital gains taxes on property sales would be up to three times the standard rates, and applying "standard land pricing," which was well below market value, as the basis for compensation for public acquisition in urban planning areas.² The effects of these measures combined with stagnation in the growth in real incomes have been dramatic. Housing production in 1979 fell by 16% to 251,000 despite a small increase in public sector production, as private sector units declined by 28% to 133,000 and housing investment as a portion of GNP fell by 15% to 5.1%. This decline continued in 1980, with both public and private sector production falling. Whereas 62% of the housing units in the peak year of 1978 were produced by private sector, by 1980 the 105,000 units of privately developed housing represented just under half of that year's production, and a 43% decline from the peak year. Public sector production which had exceeded plan targets (see Table I.1) in 1978 and 1979, fell 2,000 units below the 1980 plan to 106,000 units. In 1981, private

¹ Three hundred and sixty three dong (neighborhoods) and four apartment areas which included most of the suburban areas of major cities were designated "specific areas."

² These were designated under the Land Utilization and Management Act and covered most urban areas.

Table I.1: HOUSING OUTPUT DURING THE FOURTH FIVE-YEAR PLAN
(thousands of units)

Description	1977		1978		1979		1980		1981		Total	
	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
Public sector	95	80	94	115	100	118	108	106	80	78	555	497
Private sector	125	123	146	185	160	135	182	105	170	72	783	618
<u>Total</u>	<u>220</u>	<u>203</u>	<u>240</u>	<u>300</u>	<u>260</u>	<u>251</u>	<u>290</u>	<u>211</u>	<u>250</u>	<u>150</u>	<u>1,138</u>	<u>1,115</u>

sector production fell by a further 31% compared to the previous year, to 72,000 units, while the public sector reduced its production by 27% to 77,000 units. Housing investment during 1981 represented 4.2% of GNP as a result. However, since 1979 the rates of increase in housing and land prices have also fallen dramatically, well below those of both wages and prices. During 1980, housing and land prices increased 4.3% and 5.2% respectively over the previous year, while wages and general price levels gained 22.7% and 34.6% respectively. Housing and land prices almost stagnated in 1981, rising only 1.1% and 1.4% above the 1980 level, while wages and general prices climbed over 20% during the year.

1.05 These drastic cuts in housing production led the government to relax some of its "anti-speculation" measures. In December 1980 the capital gains tax structure and rates were revised, introducing a category for units smaller than 25 pyong/¹ (py) held by individuals more than two years, and permitting variations in the rates applied of plus or minus 15% by Presidential Decree. The new rates (see Table I.2) represented a reduction in base rates of between 20% and 40% for individuals and 20% to 30% for corporations on legal transactions. Penalties on illegal transactions (sale without registration) were also reduced by 5%. In addition to the reductions in base rates, the full 15% downward variation permissible was applied for individual transactions and a 7% reduction was applied for corporations. Consequently, rates applied currently are between 50% and 70% lower than pre-December 1980 rates. In June 1981 the most severe of the anti-speculation measures, the "specific areas" designation, was lifted.

¹ 1 pyong (py) = 3.307 sq m.

Table I.2: COMPARISON OF CAPITAL GAINS TAX RATES
ON PROPERTY SALES IN 1978 AND 1982

Period of Ownership	Size of Unit	Type of Seller					
		Invididuals			Corporations		
		1978	1982		1978	1982	
			Base Rate	Adjusted Rate		Base Rate	Adjusted Rate
More than 2 years	Less than 25 py	50%	30%	15%	-	-	-
	Others	50%	40%	25%	25%	20%	13%
Less than 2 years	All sizes	70%	50%	15%	35%	25%	18%
Penalty rate		80%	75%	75%	40%	35%	35%

Source: Ministry of Construction.

1.06 Despite these relief measures, private developers' output in the housing sector has continued to decline and at a rate more rapid than that of the public sector. Whereas in the past housing units produced by both private and public developers were generally pre-sold before construction, since 1979 both groups of developers have experienced inventories of unsold units from each year's production. However, while the major public developer, Korea National Housing Corporation (KNHC), by end March 1982 reduced its inventory of unsold units from about 20% to about 10% of last year's production through advertising and publicity, the large private developers, who are members of the Korea Housing Association (KHA), had 47% of 1981 production still unsold.

1.07 The decline in effective demand and the differences between demand in the segments supplied by the public and private developers are attributable to various causes. Short-term investors who were attracted to the market in the 1970s by rapidly rising prices (which their activities helped to fuel) have found that real estate no longer provides a rate of return comparable to other investment opportunities. Indeed, for the past two years regular bank savings accounts gave higher yields than housing. Consequently, buyers primarily interested in the investment aspect of housing have left the market. However, during the 1970s when they were active, price increases for land, houses and rents rapidly outgrew increases

in wages, making housing less affordable to consumer/investors./¹ In addition, consumer/investors have had great difficulties in entering the market because of high cash requirements (60-80% down payments were needed for KHB financed units up to 1981). Although real estate price increases have moderated over the past two years, it appears that even those consumer/investors able to meet the down payments are reluctant to purchase units when the value of their investment is appreciating at a rate that is well below inflation rates. In addition, the recession since 1979 and the uncertain policy environment characterized by frequent changes in signals have also discouraged real estate investment.

1.08 These various factors have had a greater impact on the private developers than on the public developers, because the short-term investor would normally be more active in the income range for whom private developers build, consequently their absence from the market would directly affect those developers. In addition, mortgage financing terms are structured to reduce the proportion of financing to be provided as unit sizes increase. As a result, proportionally more cash is required to purchase units built by private developers and only buyers with substantial savings or access to cash can enter the market. Land prices are higher for private developers compared to public developers (over 2.5 times more based on a preliminary review undertaken during project preparation) and real estate related taxes which private developers (but not public developers) pay add an estimated 9-12% ^{/2} to the cost of units. Together, these factors raise the affordability requirements considerably for privately developed units.

1.09 The problem for public developers have been less severe. Lower costs of land, taxes and financing enable overall development costs to be more affordable to potential buyers. Since an eligibility requirement for publicly developed housing is that applicants do not own other houses, short-term investors are generally ineligible. Consequently, the decline in demand affecting the public developers is more directly related to consumers unable or unwilling to commit the significant amount of cash (from 40% of cost, upwards) required as a down payment on a house during a time of economic uncertainty.

1.10 The inability or unwillingness to purchase newly constructed units does not reflect disinterest on the part of Koreans in improving their housing conditions, as the decline in demand for new units has been accompanied by increased expansion of existing units. Although the ratio of housing units to households and owner occupancy (down to 60% in 1980 from 63.5% in 1975) has continued to decline, living area per capita nationwide

^{/1} Defined as purchasers seeking housing as shelter as well as a means of accumulating assets.

^{/2} Estimated by Korea Research Institute for Human Settlements (KRIHS).

increased from 2.4 py in 1975 to 2.8 py in 1980 (2.14 py to 2.6 py in cities). In the current context, it appears that Korean housing consumers are trying to satisfy their requirements for shelter by renting additional space rather than investing in home ownership, and that landlords find it profitable to provide such space by expansion and subletting of existing houses.

Recent Developments

1.11 In January 1982 the government announced a number of stimulation measures designed to accelerate economic growth. The housing sector received a special provision of W 300 billion for five-year loans to be made available to the private sector through the Citizens National Bank (CNB) and the Korea Housing Bank (KHB) for purchases of existing houses or construction of new units. These funds were to be committed by the end of June 1982. To reduce uncertainty about the future of capital gains tax rates, the existing tax regime which was due to expire in September 1982 was extended to end-March 1984. The period during which a homeowner could own a second house without incurring capital gains taxes on its sale was extended from a year to 18 months to encourage those who could "trade up".

1.12 Indications as of April 1982 were that performance in the sector in the first quarter 1982 was improving relative to the same period last year. Overall building approvals at the local government level were up 16% in January 1982; for residences only, approvals up 30%; and schemes approved under the Housing Construction Promotion Law /1 were up 300%. Of the special W 300 billion allocated for loans, W 261 billion had been committed as of March 23, 1982. As 44% of that amount was processed in the week (March 15, 1982) before, it appeared that the W 300 billion would be exhausted well before the deadline for its use. Originally, the government had anticipated that 10% of the total would go through KHB for new construction while the remainder would be disbursed through CNB for purchase of existing units; however, of the W 261 billion, W 45.4 billion (17%) had been committed by KHB. Finally, the Economic Planning Board (EPB) Business Survey Indices indicate that while other sectors were experiencing a recession during the first quarter 1982, housing was improving steadily from a composite performance score of 97.7 at the end of the fourth quarter 1981, to 108.3 for the end of the first quarter 1982.

C. Prospects for the Future

1.13 The Fifth Plan targets include investment of 5.33% /2 of GNP in new housing, annual production of 270,000-320,000 units (100,000-130,000

/1 Projects over 20 units must receive approval under the Housing Construction Promotion Law; smaller projects get permission from local governments under the Architecture Act.

/2 This differs from the EPB macro investment target of 6.2%, probably because the macro figures may include investments in rehabilitation and extensions to existing units.

public, 170,000-190,000 private), overall numbers of units to be built by the public (570,000) and private (890,000) sectors, distribution of units between urban (92%) and rural areas (8%) and an investment plan totalling W 19,125 billion (see Table I.3). These targets appeared optimistic when they were announced in the summer of 1981, and by March 1982 the 1982 target had been scaled down from 270,000 to 200,000 units.

Table I.3: SUMMARY OF FIFTH PLAN HOUSING TARGETS

Unit: thousand dwellings Funds: billion Won (constant 1981 prices)

Year	1982	1983	1984	1985	1986	Total (1982-86)
1. No. of units to be built:	270	280	290	300	320	1,460
(a) Source:						
Public sector	100	110	110	120	130	570
Private sector	170	170	180	180	190	890
(b) Location:						
Urban	246	256	266	277	297	1,342
Rural	24	24	24	23	23	118
2. Funds Required:	3,213	3,475	3,814	4,093	4,571	19,123
Public sector	780	927	996	1,152	1,340	5,204
Private sector	2,434	2,548	2,820	2,941	3,231	13,971
3. Percent of GNP	5.19	5.22	5.33	5.33	5.53	5.33

Source: Ministry of Construction

1.14 Associated with plan targets were a number of measures to be taken to improve performance in the sector. Funds for public housing are to be expanded by increasing government contribution from 1% to 2% of the budget by 1986, introducing pension funds as a financing source and encouraging investments in housing through savings at commercial banks, insurance companies, and long term (contract) savings schemes for low-income families willing to purchase a house. Central to this strategy is the establishment of the National Housing Fund (NHF) which is to be the vehicle through which funds would be mobilized and which would bring stability to

the public sector housing finance system.^{/1} The mortgage finance system would be improved by increasing mortgage financing as a proportion of house costs which would make mortgages more accessible to low-income families. The private sector is also to be encouraged to provide housing by other developments in housing finance, including an increase in KHB's long-term mortgage financing capabilities and establishing medium-term mortgage financing by commercial banks; reform of the tax system to reduce taxes to builders and purchasers; and development of a steady supply of land through the public sector. Rapid and extensive development of land by the public sector, mainly the Korea Land Development Corporation ^{/2} (KLDC), is also seen as an important means of stabilizing housing prices. The objective of reducing costs is to be addressed by standardization of components and technological improvements. Additional objectives of the plan include promoting the provision of rental housing and improving planning and management of housing developments.

1.15 The general thrust of the objectives and policies for the Fifth Plan appear appropriate. Improvements in the availability and structure of mortgage financing for both public and privately developed units are perhaps the most important steps which may assist the growth of the housing sector. The NHF was established in July 1981 and is already utilizing pension funds as a source of finance. While an additional W 300 billion, over and above the W 440 billion previously earmarked for KHB, was made available to the private sector under the stimulation measures mentioned earlier, no fundamental changes have been made in the system for providing mortgage financing to the private sector. It would be appropriate for significant changes to await the results of the study of housing finance being undertaken as part of the housing sector study supported under the first project (para. 1.21), and that such changes be consistent with the overall financial sector reforms contemplated by the government.

1.16 The measures proposed to increase private participation in the sector are also important, but stop short of opening the market to private developers to try to provide low-income housing. Korean officials believe that the size of units purchased are a reasonable guide to the level of income of purchasers. On that basis the housing market is roughly divided between units of 25.7 py or smaller developed by the public sector to meet demand up to the 50th percentile of the urban household income distribution, and larger units developed by the private sector for the upper end of the market. (In fact, there is some overlap as private sector developers also build units smaller than 25 py). KNHC and local authorities have access to land and financing at much lower prices,^{/3} and are not subject to real

^{/1} See Chapter III for detailed description of NHF.

^{/2} See Chapter III for detailed description.

^{/3} The only exception to this is the program for housing cooperatives. These cooperatives can obtain land and financing on the same terms as KNHC. See paras. 4.20-4.22 for more details.

estate related taxes which add significantly to the cost of private developments. In effect, these subsidies to public developers give them a major competitive edge over private developers. Whereas subsidies may be justified in housing as a benefit distribution to lower income families, the method of allocation in Korea neither ensures this end nor justifies exclusion of the private developers. To be eligible for publicly developed units,^{/1} applicants are only required to demonstrate that they do not own another house^{/2} and can provide the necessary downpayment. The government's assumption is that the families will seek the largest units they can afford, therefore, the size of the unit will determine which income group will be interested. If this is true (and there have been no empirical tests), the subsidies are extended to all units in proportion to their cost, resulting in greater amounts for larger units (and for families with higher levels of income) than for smaller units for poorer families. Consequently, the present system does not ensure equity in subsidy allocation because of public sector distribution and does not suggest excluding private builders if they were to restrict allocation in the same manner as the public developers.^{/3} In order for private developers to have access to land and financing at the same price as public developers, existing laws, in particular the Residential Site Development Promotion Law and the Housing Construction Promotion Law, would need to be revised. This issue of private sector participation in housing is one of the topics of the housing sector study financed under the first project and an element of the ongoing dialogue between the government and the Bank. Incentives and disincentives (which are, in effect, subsidies) in the housing sector, and their allocation, are proposed to be the subject of a study financed under this project. Agreement on this study was obtained at negotiations.

1.17 The recent stimulation measures and the Fifth Plan program for housing are designed to boost production but without the serious inflationary effects of the 1970s. The success of this strategy will ultimately depend on the performance of the economy as a whole. If there is strong growth in the economy, supply capacity, latent demand and an increasing amount of appropriately structured financing should result in a resurgence of growth in housing. If this growth is not to be accompanied by high levels of inflation in housing and land prices, restraints on the

^{/1} Except for Bank and ADB-financed projects where there are explicit income requirements, and income verification is required on application.

^{/2} By providing a certificate from the Gun (county) office stating that there is no house registered in the ownership of the head of household in the county.

^{/3} While public developers are also responsible for ensuring that successful applicants do not resell their units in a manner that violates their agreement, this responsibility could be, for example, passed to the mortgage holder, relieving developers of that problem.

supply of urban land and uncertainty in the policy environment will need to be reduced. In particular, financing will have to be directed predominantly to consumer/investors rather than to speculators. Concomitantly, the private sector should produce for the consumer/investor group of whom a large portion are low income. It will be necessary, therefore, that the government remove barriers to private sector participation in the low-income market and ensure that measures to increase the availability of mortgage financing with down payments that are affordable by the target group are instituted in a timely manner.

D. Bank Role and Sector Strategy

Performance under the First Project

1.18 The first project was approved in April 1981 and became effective in August 1981. Four primary objectives underlie that project:

- (a) to develop the capability in KLDC to provide serviced residential sites on a large scale;
- (b) to provide affordable housing to the second quartile of the income distribution through KNHC;
- (c) to establish a framework for project identification, preparation, appraisal and implementation through which the Bank could support future projects on a programmatic basis; and
- (d) to assist in establishing a policy framework for the Korean housing sector.

1.19 Soon after its establishment in March 1979, KLDC sought Bank assistance, and although it was less than two years old at the time of appraisal of the first project, the organization's performance by that time indicated that it could be an important and effective agency. Its performance on the first project has fully supported that assessment as all land development activities have been executed on time and well under budget. Extension of the land development program under the loan by the addition of three sites has been possible as a result. KNHC has also carried out all necessary preparatory activities for housing development, including detailed designs and contract preparation, on schedule and all indications are that its activities will also meet project objectives.

1.20 Regarding the third objective, results so far are mixed. The Ministry of Construction's Housing Bureau (MOC-HB), KLDC and KNHC initially established a preliminary framework for the housing project cycle, including a Working Group of these three agencies to be responsible for city and site selection and developing and maintaining design standards. However, this Working Group, which was not able to take binding decisions, has not functioned on a continuous basis and coordination has been sporadic. During

the preparation of this second project, MOC agreed to establish a senior level Liaison Committee, chaired by the Director General, MOC-HB, and including director level representatives of the MOC Land Bureau (LB), KLDC and KNHC. This committee will be responsible for coordination of program planning and implementation involving the latter two agencies. For example, MOC, KLDC and KNHC have now jointly developed a set of criteria for city and site selection accommodating the special concerns of each agency which will be used to choose future sites. Significant progress has not yet been made on establishing appraisal capacity for public sector land development and housing projects in the government. While KHB has extensive procedures and experience in appraising private sector proposals, there has been no recognized need for a similar function for public developers. The MOC Housing and Land Bureaus carry out technical reviews of plans prepared by KNHC and KLDC respectively to ensure compliance with appropriate standards, but the economic and financial reviews associated with a Bank-type appraisal are absent. A study of the requirements for and location of appropriate appraisal capacity for public developer proposals is proposed to be carried out under this project. Agreement on this study was obtained at negotiations.

1.21 The fourth objective, assisting in establishing a housing policy framework, is being met. The Bank has participated in discussions of policy proposals for the housing Master Plan during spring 1981, followed up during the review of the draft Fifth Plan. These discussions have continued, focusing on the NHF and the 1982 implementation plan for the Fifth Plan. To facilitate mutual understanding between the government and the Bank on problems and prospects for the sector, a Housing Sector Study was financed under the first project. To oversee the study, which is being carried out by KRIHS, the government formed an Advisory Committee chaired by the Director General, MOC-HB and including representatives of EPB, Ministry of Finance, KNHC, KLDC and KHB. The study which began in May 1982 will:

- (a) assess housing (sales and rental) demand and identify housing solutions that would be acceptable in the Korean market;
- (b) assess the total amount of financing available to the housing sector together with the necessary terms and conditions for mobilizing and allocating these resources;
- (c) examine the role and performance of the private sector in the housing market and how its participation may be increased;
- (d) examine the impact of housing demolition and expansion/renewal policies on the housing market; and
- (e) develop a housing sector information and monitoring system.

The Bank has been intensively involved in the discussions of the methodology and work plans for these studies and will be similarly involved in the discussions of the findings and implications of these studies at both the interim and final report stage. The occasion of the presentation of the interim results (late November this year) will be used by the government and the Bank as a forum for formal policy dialogue on the sector.

Sector Strategy and Project Rationale

1.22 The Bank's sector strategy focuses on encouraging and supporting the following key activities:

- (a) ensuring stable and adequate resources to the sector;
- (b) expanding private sector participation in the housing market;
- (c) rationalizing of roles and functions in the public sector and strengthening the public sector institutions;
- (d) developing sound financial policies for the expansion and utilization of the NHF;
- (e) developing a viable economic and financial analysis and appraisal capability for housing sector programs; and
- (f) strengthening policies and programs for improved delivery of housing to lower income families.

The first project, its associated studies and the dialogue which has taken place to this time have developed a better understanding of the sector, assisted institutional development and introduced solutions such as cross-subsidization of land prices and expandable core and row houses to benefit low-income families. This proposed second project is timely in that it would reinforce and expand the institution building that has taken place and will involve the NHF during its early development. Rather than focusing on the details of specific plans and designs, this project in its preparation emphasized reaching agreements on the process, principles and criteria by which land and housing development programs and projects would be prepared and implemented, as is usually necessary when initiating lending in a sector. In addition, this second project would help to maintain the government/Bank dialogue, deepen Bank participation in and knowledge of the sector and its institutions and would link with the discussions related to and arising from the study of the housing sector financed under the first project. Assurances on the continuation of government/Bank dialogue on housing policies were obtained at negotiations.

II. PROJECT COMPONENTS, COSTS AND FINANCING

A. Objectives

2.01 This project is intended to advance the Bank/government dialogue on sector policy and programs. In keeping with this, this project would:

- (a) assist in the rationalization of roles and functions and strengthen the housing and land development institutions in the public sector. Specifically, the National Housing Fund (NHF), created July 1981, would assume a more prominent role in long-term housing finance absorbing functions of the previous public sector low-income housing finance program managed by the Korea Housing Bank (KHB) and the foreign loan program previously managed by the Korea National Housing Corporation (KNHC). In addition, KNHC would be encouraged to focus on housing construction and the Korea Land Development Corporation (KLDC) on developing land especially for low-cost housing. The basis for formulating housing programs and determining housing mix would be improved, and a coordinated and rationalized system for city and site selection would be developed and implemented;
- (b) support the development of the NHF with a view to establishing a viable financial intermediary with the capability for project appraisal and supervision; and
- (c) support the policies and programs for improving the delivery of housing to lower income families by financing the development of land and housing by KLDC, KNHC, housing cooperatives and local authorities. The primary target income group will be the 15th to the 50th percentile of the urban household income distribution.

B. Project Summary

2.02 The proposed project would support about 3% of the public sector land development and 1% of public sector housing development programs in the Fifth Plan. It would provide residential and commercial plots and housing units for low-income households in a number of cities throughout the country (see para. 2.03), and would be similar to and based upon the experience of the first housing project. KLDC would acquire and develop the land, and KNHC and housing cooperatives through local governments and private builders would provide housing for low-income families on the low-income plots. Off-site infrastructure would be developed either by KLDC or local governments depending on arrangements in each city.

2.03 The project would consist of:

- (a) development of about 1.43 million py of urban residential land by KLDC with a total of about 22,900 low and middle-income plots; approximately 770,000 py in six cities in Phase I, and about 660,000 py in Phase II in a number of cities and sites to be selected by criteria and procedures agreed with the Bank;
- (b) construction by KNHC of about 10,100 housing units for low-income families; about 5,500 units on Phase I sites and 4,600 units on Phase II sites;
- (c) construction of about 2,500 housing units by housing cooperatives through a program supervised by KLDC and local authorities with about 1,300 units on Phase I sites and 1,200 units on Phase II sites (see para. 4.20);
- (d) provision of about 10,300 middle-income serviced lots; and
- (e) technical assistance to MOC-HB, KLDC and KNHC for future project preparation, training and studies (e.g., on incentives and disincentives, policies and practices, public sector appraisal capacity, and monitoring and evaluation).

C. Project Details and Content

2.04 The planning principles will be similar to the other shelter projects supported by the Bank in Korea.^{/1} On sites developed for multiple uses profits from the sale of open commercial and middle-income residential plots would be used to cross-subsidize plots for families in the target group of the 15th-50th percentile of the urban household income distribution. Housing units as well as serviced plots would be provided to the target group and sold with long-term mortgages. Within this target group, 30% of the units would be for the 15-19th percentile, 50% for the 20-39th percentile, and 20% for the 40-50th percentile. The affordability criteria of 40% down payment (see para. 5.03) and maximum of 30% of monthly household income for mortgage payments would be used. Expandable core houses, row houses and apartments would be built in appropriate proportions to achieve the required distribution. These planning and allocation criteria were confirmed at negotiations.

2.05 The project will be structured into two phases. In both phases low-income residential areas will be developed as serviced sites to be sold

^{/1} Secondary Cities Regional Project (Loan 1070-KO, approved 1975); Second Gwangju Regional Project (Loan 1758-KO, approved 1978); National Urban Land Development and Housing Project (Loan 1980-KO, approved 1981).

to members of housing cooperatives for construction of house types determined by the members. By including serviced low-income lots with housing constructed by small, local contractors, the project would provide a better test for the types and sizes of units being demanded by this income group. Local governments would be responsible for promoting the formation of these housing cooperatives, borrowing the necessary funds from the NHF to be on-lent to the cooperatives and supervising the implementation of the program by cooperatives. Agreement on the participation of housing cooperatives in the project were obtained at negotiations.

2.06 Phase I will consist of six sites already selected (Anyang, Jeonju, Suweon, Gangreung, Gimhae and Daijeon) for which land development will be carried out by KLDC under CPL procedures, except in the case of Suweon, which will be done under the LR law,^{/1} and on which housing will be constructed by housing cooperatives (Daijeon) and KNHC (all others). These sites were selected jointly by KLDC and KNHC from 18 sites visited by their planning teams in May 1981; the Bank's September preparation mission gave preliminary agreement to these sites. The sites at Suweon (Gweonseon), Anyang I (Sanbon), Gangreung (Noam) and Jeonju (Hyoja) were assigned to local consultants ^{/2} who prepared feasibility studies and detailed engineering. These studies were reviewed during the April 1982 appraisal mission and indicate that these sites are suitable for financing under the project. Development of these sites would represent about a third of the program.

2.07 Phase II will consist of a number of sites to be selected totalling approximately 660,000 py. KLDC will select these sites based on KNHC's requirements, specified by year, cities, size, cost and locational characteristics. However, should KLDC be unable to find sufficient sites suitable to KNHC, KNHC will be able to select sites of its own to fill its requirements for the year. Similarly, if KNHC is unable to use all of the low-income residential land developed by KLDC, KLDC will sell such remaining lands to local governments and housing cooperatives. Nevertheless, it is agreed that at least 60% of Phase II will be developed by KLDC for sale to KNHC (see paras. 4.05-4.09 for details). To facilitate these procedures, a senior-level Liaison Committee of MOC (Chairman), KNHC and KLDC has been established, and a set of city and site selection criteria has been agreed between MOC, KLDC and the Bank. The use of this committee and the criteria were confirmed at negotiations. This approach is in keeping with the development of guidelines, principles and criteria for designing and implementing programs for land development and housing.

2.08 A summary of project location (see Annex 4 for a description of project cities) and scale is given in the following table:

^{/1} CPL is City Planning Law; LR is Land Readjustment Law.

^{/2} Six local consulting firms were prequalified for feasibility studies and engineering designs for the first project. These firms are also being used in this project.

City	City population /a	Total site area (py)	Low income residential area (py)	No. of low income units	No. of middle income plots
<u>Phase I</u>					
Anyang I	284,000	129,900	44,500	1,740	600
Jeonju	393,000	196,850	58,630	2,292	1,040
Suwon /b	338,000	218,330	19,840	775	308
Gangreung	28,000	25,000	7,530	295	170
Ginhae	76,600	52,330	10,530	411	440
Daijeon /c	716,000	150,000	32,730	1,280	1,100
<u>Phase II</u>					
To be identified		659,220	148,300	5,757	6,692
<u>Total</u>		<u>1,431,630</u>	<u>322,060</u>	<u>12,550</u>	<u>10,350</u>

/a 1982 population estimate.

/b The site in this city is to be developed by the Land Readjustment (LR) method.

/c Housing to be developed by housing cooperatives.

Land Acquisition

2.09 KLDC is acquiring land using the Site Development Promotion Law and direct negotiations. This law /1 facilitates the acquisition of housing development sites in and around urban areas. It complements the City Planning Law (CPL) and Land Readjustment Project Law (LRPL) procedures that are normally used in Korean practice. A discussion of the relative merits of CPL and LRPL is presented in the Staff Appraisal Report on the first project./2 Under these laws and standard negotiating practices of KLDC, land acquisition can be expected to proceed smoothly with a time lag of six months from site selection to possession. Under this project only one site will be developed under the LRPL procedure. The LRPL procedure is becoming less popular as a method of land development among Korean agencies concerned because of the more cumbersome administrative requirements and the generally longer lead time required to take possession of the land. The size of the sites needed to be developed in order to produce a reasonable amount of low-income land (now averaging only 10% of gross site area) is also a discouraging factor.

Land Development

2.10 As in the first project, KLDC will develop the sites in accordance with existing planning regulations and standards, providing all services stipulated for the category of land use being planned. Each site will be designed as an integrated unit and provided with community facilities and commercial areas. The cost of all off-site infrastructure required to service each site as well as any main services crossing each site will be shared by the central and local governments.

/1 Promulgated in December 1980 as Law No. 3315.

/2 Para. 2.07 and Annex 2 of Report No. 3298a-KO dated March 23, 1981.

2.11 Proposed land uses for project sites are presented in Annex 5, Appendix A and details of the corresponding site development works are summarized in Appendices B and C.

Housing Construction

2.12 On completion of land preparation, KLDC will sell to KNHC approximately 40% of the net residential land area available at each multiple uses site for construction of low-income housing of various types, affordable to households in the 15th-50th percentile of the urban household income distribution. In one Phase I site and an undetermined number of Phase II sites the low-income land will be sold to housing cooperatives for construction of house types determined by the members. An analysis of unit costs of different housing types being designed and constructed by KNHC showed that 12 py and 15 py apartments were affordable to the 15-19th percentiles and 15 py row houses and 17 py apartments to the 20-29th percentiles. It has been agreed that 30% of units will go to the income group from the 15th to the 19th percentile, 50% to the 20th to the 39th percentile, and 20% to the 40th to the 50th percentile of the income distribution. The mix of units within these groups has been determined by market surveys (para. 4.18). As a result, for planning and cost estimation purposes the following unit types and distribution have been agreed:

Housing Type/ <u>a</u>	Lot size (py/unit)	Net area/unit	% of units /a	Percentile of income distri- bution reached
Core house	30	12 py expandable to 18 py.	10	17
Apartment 5 storey walkup	18.8	15 py.	30	19
Row house 2 storey	15	15 py.	30	20
Apartment 5 storey walkup	21.5	17 py.	30	27

/a The types and mix of units would be subject to adjustment should interest rates and costs change relative to incomes.

Public Facilities

2.13 The project sites require a number of community facilities such as schools, markets, playgrounds, police posts, post offices, etc. A summary of the facilities required to be provided for Phase I sites together with estimated costs is given in Annex 5, Appendix D. These facilities are to be provided by the local government/central government agency concerned out of their normal budgetary allocations and phased in to suit the implementation schedule of the project. Assurances were obtained during loan negotiations that these facilities will be provided in a timely manner and progress will be monitored and reported on during project implementation.

Technical Assistance

2.14 The Technical Assistance component (see Annex 9 for details) under this project will include:

- (a) Staff training: In-service as well as overseas training for MOC, KLDC and KNHC staff in areas of housing finance, real estate development and management, engineering and construction.
- (b) Project Preparation: Feasibility studies and detailed engineering costs for work leading to a possible future project are estimated at US\$1.0 million, based on employing local consulting firms for a total of about 330 man-months at an average cost of US\$3,000/man-month.
- (c) Monitoring and Evaluation: Continuation of the programs of surveys and analysis begun under the first project to determine the impact and effectiveness of the land development and housing activities. The land development program will be evaluated by KLDC and housing will be evaluated by KNHC.
- (d) Studies in the housing sector are estimated to require about 65 man-months of total consulting time at an average cost of US\$3,000/man-month (totalling US\$200,000). The content of these studies (paras. 1.16 and 1.20) were agreed at negotiations.

D. Cost Estimates

2.15 The total project cost is estimated to be W 233.8 billion (US\$ 316.0 million equivalent) of which the foreign exchange element, mostly indirect, is estimated to be about 32% or about US\$100 million. The tax element of total project cost is estimated at US\$8.99 million. Summary project cost estimates are as follows (detailed estimates are given in Annex 1):

Project component	Won million			US\$ million			% Foreign exchange	% of base cost
	Local	Foreign	Total	Local	Foreign	Total		
Land acquisition	37,254.3	0	37,254.3	50.34	0	50.34	0	19
Land development	17,633.9	11,756.0	29,390.0	23.83	15.89	39.72	40	15
Off-site infrastructure	3,512.4	2,341.6	5,854.0	4.75	3.16	7.91	40	3
House construction	75,947.3	44,603.9	120,551.0	102.63	60.28	162.91	37	62
Technical assistance	518.0	518.0	1,036.0	0.70	0.70	1.40	50	1
<u>Total Base Cost</u> (September 1982 prices)	<u>134,865.9</u>	<u>59,219.5</u>	<u>194,085.3</u>	<u>182.25</u>	<u>80.03</u>	<u>262.28</u>	<u>31</u>	<u>100</u>
Physical contingencies	2,013.7	1,342.4	3,356.1	2.72	1.81	4.54	40	
Price contingencies	22,945.2	12,344.4	35,288.6	31.01	16.68	47.69	35	
<u>Total Project Cost</u>	<u>159,824.8</u>	<u>72,906.3</u>	<u>232,730.0</u>	<u>215.98</u>	<u>98.52</u>	<u>314.50/b</u>	<u>31</u>	
Front end fee on Bank Loan	0	1,093.7	1,093.7	0	1.48	1.48	100	
<u>Total Financing Required /a</u>	<u>159,824.8</u>	<u>74,000.0</u>	<u>233,823.7</u>	<u>215.98</u>	<u>100.00</u>	<u>315.98</u>	<u>32</u>	

/a Figures may not add up precisely due to rounding.

/b Taxes amount to about \$8.99 million.

2.16 Project costs were estimated by KLDC staff and consultants for land development on the basis of detailed designs for Phase I sites and for housing construction by KNHC staff on the basis of similar on-going programs. All cost estimates are based on September 1982 prices. Design and supervision costs are estimated at 3% of civil works, and physical contingencies are estimated at 10% of applicable costs for land development and off-site infrastructure or about 2% of base cost. No physical contingencies have been allowed for housing construction, since contracts are "lump sum" bids for a specified number of completed units. Price contingencies for local currency costs are based on expected increases in construction costs of 7% in 1982, 8% in 1983, 7.5% in 1984 and 7% per annum thereafter. The corresponding rates for foreign costs are 8.0%, 8.0%, 7.5% and 7.0%, respectively. The overall price contingency amounts to about 9% for land development and 24% for housing construction. Local consulting services are estimated at an average cost of \$3,000 per man-month

E. Financial Arrangements

2.17 The proposed Bank loan of \$100 million (W 74 billion) including front end fee will finance the project's foreign exchange requirements. The loan will be made to the government of the Republic of Korea, which will pass the funds on as loans and grants (for studies) to the project agencies (i.e., KLDC and MOC/NHF). Details of how the Bank loan will be passed on to the respective agencies are given in Annex 2. KLDC would provide about US\$72.8 million equivalent (W 53.9 billion) and NHF about US\$47.1 million equivalent (W 34.8 billion) from their own resources or other borrowings. KLDC is expected to raise a substantial portion of the funds through land sales and central government contributions. The Bank project would form a small slice (1%) of NHF's program over 1982-86 which is financed primarily through the issuance of housing bonds, mobilization of local savings and central government contributions. KNHC and the housing cooperatives are expected to raise additional funds required for housing construction, about US\$67.7 million equivalent (W 50.1 billion) and US\$18.1 million equivalent (W 13.4 billion), respectively, from down payments. In line with the financing arrangements for areas promoted for housing estates as designated by MOC, the capital cost of off-site infrastructure of US\$10.3 million equivalent (W 7.6 billion) will be shared equally by central and local governments. Community facilities will be provided by local governments as required. Details concerning NHF, KLDC and KNHC's sources of funds are given in Chapter III. Assurances were obtained during negotiations that the concerned cities will enter into agreements with KLDC on project implementation and provide their share of the funds required for off-site infrastructure and community facilities in a timely manner. The front end fee of about US\$1.48 million (W 1.09 billion equivalent) would be financed by the Bank and is included in the loan amount. Sources of funds for the total project are as follows (see Annex 2 for details):

	<u>W billion</u>	<u>US\$ equivalent</u>
Total Financing Required:	233.82	315.98
of which World Bank	74.00	100.00
NHF	34.84	47.08
KLDC	53.85	72.77
KNHC	50.13	67.74
Housing cooperatives	13.42	18.14
Local/central government	7.58	10.25

Terms of Loans

2.18 ROK will repay the Bank loan over a 15-year period including an initial three-year grace period at the standard variable interest rate. It is proposed that the Bank loan will be onlent to the project agencies in accordance with normal government practice, through subsidiary loan agreements at the same interest rate as the Bank loan plus 0.05% for handling charges for 15 years with a three-year grace period. KLDC and NHF will bear the foreign exchange risk for their respective shares of the loan. These transactions will be covered under subsidiary loan agreements, the signing of which would be conditions of loan effectiveness. These arrangements were confirmed at negotiations.

2.19 The NHF will blend the Bank funds with its other sources of funds and on-lend to KNHC at its prevailing interest rate under a financing agreement, the signing of which would be a condition of disbursement. This arrangement was confirmed at negotiations. Interest rates are currently 10% for construction of all units 25 py or less. Government will pass on the responsibility for repayment of the front end fee to KLDC and NHF for their respective portions, in accordance with current practice. The arrangements for passing on the front end fee to the relevant agencies were agreed during negotiations.

Inflation and Interest Rate to Beneficiaries

2.20 Despite the onset of a deep recession and negative economic growth, Korea's rate of inflation accelerated from 22.7% in 1979 to 35.0% in 1980./1 As a result of its concern about inflation, the government instituted policies which have reduced the rate to 14.7% in 1981 and it is expected to be about 7% in 1982. In line with the decreasing inflation rate, the government has recently adjusted interest rates downward across all sectors, including the housing sector, but maintaining the objective of ensuring positive interest rates. The rate of interest charged to the project beneficiaries for housing loans by the NHF is presently set at 10%. The onlending interest rate is positive in real terms. Mortgage interest rate policy will be examined further in the context of a housing sector study underway and through the scheduled periodic review of performance on housing policies.

/1 As measured by the Gross Fixed Capital Formation (GFCF) deflator.

III. SECTORAL AGENCIES

A. Institutional Framework

Sector Institutions and their Roles

3.01 The key institutions in the housing sector in Korea are: the Housing Policy Review Committee, the Ministry of Construction (MOC) Housing and Land Bureaus, the Korea National Housing Corporation (KNHC), the Korea Land Development Corporation (KLDC), the National Housing Fund (NHF), the Korea Housing Bank (KHB) the Citizens National Bank (CNB), all under public sector control and a private trade association, the Korea Housing Association (KHA).

3.02 The Housing Policy Review Committee authorized under the Housing Construction Promotion Law is composed of up to 20 members, chaired by the Minister of the Economic Planning Board (EPB); Vice-chairman, the MOC Minister; with representatives from the economic ministries;/1 the Senior Secretary to the President in charge of the economy; Chief of the Office of Administrative Coordination in the Prime Minister's Office; the Presidents of KNHC and KLDC and representatives of the private sector. The Director-Generals of EPB Policy Bureau and MOC-HB are secretaries to the Committee. A primary responsibility of this committee is to review and approve the annual Housing Construction Plan (HCP). The Committee is advised by a Working Level Committee, chaired by the MOC Vice Minister and with representatives from all ministries on the Policy Review Committee. The secretariat to the Working Level Committee is the MOC-HB/Policy Division (PD). The annual HCP establishes the year's allocation of the number of public sector housing units to be built, the distribution of sizes, the amount and type of loan funds and their rates and terms, by province and by developer. Preparation of this plan, which by law must be completed and reviewed by the end of February each year, begins in September of the preceding year

3.03 Targets for KNHC (discussed in para. 3.55) are fixed by MOC-HB/PD in consultation with the Corporation. The local government allocations are determined following a review, in light of KNHC's allocation, of the proposals submitted by the local authorities. MOC makes global allocations to provinces; the provincial governor decides on city and county allocations knowing KNHC's program in the province. The draft plan is first discussed at the Working Level Committee before being submitted to the Policy Review Committee.

/1 Home Affairs, Finance, Education, Agriculture and Fisheries, Commerce and Industry, Energy, and Resources, Health and Social Affairs, Labor and Communications.

Once the plan is agreed, KNHC, Provincial Governors and KHB (as administrators of the NHF) are informed of the year's program. MOC exercises no control over the execution of the plan by the developers, it only submits a quarterly report to EPB summarizing progress, based on data provided by KNHC and local authorities.

3.04 MOC's Housing and Land Bureaus are responsible for, inter alia, preparing recommendations on housing and land policy establishing and controlling building and land development standards, and overseeing the operations of KNHC and KLDC, respectively. Korea National Housing Corporation is the major public sector housing developer, while Korea Land Development Corporation develops land for both public and private sector users. The National Housing Fund is the major public sector housing finance institution. Its policies and programs are determined by MOC and administered by the Korea Housing Bank staff as a separate operation to KHB's own activities, and it provides housing finance primarily for new construction.

3.05 Citizens National Bank's housing finance operation is a very small part (about 6%) of its overall lending program. About W 30 billion (average loan W 5 million) in housing loans were advanced in 1981 for the purchase of existing houses (about 90% of funds loaned) and for home improvement and home expansion. CNB, which is 70% government owned, is the largest deposit mobilizer in Korea with assets of W 2,020 billion, W 1,882 billion in deposits. Its primary lending activities are for small-scale industry /1 (W 400 billion or about 45% of 1981's lending) and what are called "general populace" loans to its depositors.

3.06 The Korea Housing Association was incorporated June 14, 1978 as a consultative organization for housing contractors. It serves as an information clearing house for its members, gathering and disseminating data on building materials, structural technology and cost in housing construction. In addition, it is an effective lobby group for the interests of large private developers. KHA currently has 70 members, of whom 93% are government designated housing contractors - the major private builders in Korea. The organization structure of KHA consists of a General Assembly, a ten-member Board of Directors, five executive officers and other supporting staff. The General Assembly establishes policy, the Board of Directors formulates organizational strategy to carry out the General Assembly mandate and the administrative staff manages the day-to-day affairs of the association.

B. Ministry of Construction - Housing Bureau (MOC-HB)

3.07 The MOC-HB is responsible for inter alia, recommending housing policies and building regulations, developing and supervising NHF's plans and

/1 The Bank has supported this program with two loans of US\$30 million each, one in 1980 (Loan 1829-KO) and more recently in April 1982 (Loan 2144-KO).

programs, and conducting research on technical issues. The Bureau has a total staff of 42, including 35 professionals. Its four divisions are concerned with housing policy, housing management, building technical guidance and the architecture law.

3.08 The Housing Policy Division, with ten professional staff, recommends housing policy for Korea concerning taxation, rental housing and foreign borrowings and supervises KNHC. Its policies affect both the public and private sectors involved in the provision of housing. This division is the main point of contact for the Bank's ongoing dialogue of housing sector policies in Korea.

3.09 The Housing Management Division has nine professional staff and has two main functions. First, it is responsible for developing policies on the management of collective (apartment) housing estates, including the organization arrangements for self-management. Second, it handles the approval of housing construction plans, which it largely delegates to the provincial governments, except for the plans prepared by KNHC and the four "special cities" (Seoul, Busan, Incheon and Daegu).

3.10 The Division for Building Technical Guidance, seven professional staff, conducts research on technical issues, including construction costs, designs and materials, and it stages an annual exhibition. In addition, it develops standard house designs for which individual home buyers can eliminate the need to hire an architect.

3.11 The last division, the Architects Division is responsible for the development of the Architecture Law which stipulates building regulations. It has a staff of eight professionals, mostly architects and engineers.

C. Ministry of Construction - Land Bureau (MOC-LB)

3.12 The MOC-LB is responsible for, inter alia, land policy, land development, acquisition of public land, establishment of standard land prices and the supervision of KLDC. The bureau has a staff of 43, 30 of whom are professionals, organized in four divisions: Policy, Development, Administration and Management, and Land Price Surveys.

3.13 The Land Policy Division, with a staff of nine (six professionals) is responsible for recommending national land policy, controlling land transactions, land banking (as a means of price control) and the supervision of KLDC's finances, planning and policies.

3.14 The Land Development Division, staffed with ten professionals, oversees the programs for local industrial estate development and the development of sites for heavy industry. In addition, the Division carries out long-term demand and supply planning for various land uses and designates and oversees

the development of housing estates under the Housing Estates Promotion Law. As part of this latter function, it reviews KLDC project proposals and implementation.

3.15 The Land Administration Division, with seven professional staff, is responsible for the purchasing of, and the compensation system for, public lands. For this function it studies and establishes measures for compulsory purchasing and carries out appraisals of land. Expropriation of lands is under the authority of an Expropriation Committee which the Division operates.

3.16 The fourth division of the Bureau, Land Price Surveys, has six professionals, who periodically survey changes in land prices, study the land appraisal system and are responsible for the notification of standard land prices which are used for public acquisition throughout the country.

D. National Housing Fund

3.17 The NHF was established on July 20, 1981 with the objective of raising and facilitating the supply of housing finance to enable the government to carry out its overall National Housing Construction Plan. Provision of housing finance to low-income groups is an important consideration in NHF's operation. The Fund is essentially an expanded version of the National Housing Construction Loan (NHCL) Program started in 1973 operated by the Korea Housing Bank, but which has become a separate fund distinct from the KHB. While KHB is answerable to the Ministry of Finance, the NHF is directly answerable to the Ministry of Construction who determines its overall policies on the advice of the MOC-HB/Policy Division. For administrative purposes, the day-to-day management of the Fund has been delegated to the President of KHB and his designated staff.

3.18 Under the overall direction and supervision of MOC's Housing Bureau, NHF has recently been reorganized into one department headed by a managing director of the KHB. There are three divisions in the NHF responsible for fund raising operations and administration. The method of operation is similar to that of the former NHCL but with an expanded staff complement. NHF's headquarters staff currently number about 26 who rely on KHB's extensive branch staff for administering NHF's operations.

3.19 The NHF is designed to be significantly larger and to have a much greater impact on the housing sector than the former NHCL. While the NHCL was empowered to tap various resources such as national housing bonds, housing lottery, central government loans, foreign loans, and loans from the KHB agricultural cooperative unions and local governments, it historically relied on housing bonds for the bulk of its lendable funds. The NHCL found itself offering increasingly higher rates for its bonds (from 6% in 1977 to 12% in 1981) while its own lending rate remained at 15.5-18%. In addition, its volume of lendable funds did not grow as rapidly as NHCL desired, since its main source of revenue was tied to the compulsory purchase of bonds by those who required various type of licenses, permits or registrations from the

central or local government. In 1980, about W 123 billion in housing bonds were sold and about W 5 billion raised from profits on the housing lottery. Even though this was a 30% increase over the combined amount raised in 1979, the volume was still considered insufficient to meet the requirements for national housing finance.

3.20 Another difficulty facing the NHCL was the restriction to 20-40% of housing price that it could finance. This meant that potential home purchasers were required to provide a down payment of 60-80% of the housing price, which was prohibitive for the low-income groups. This limitation has been removed so that the NHF will be able to provide financing for approximately 50% of the housing cost, on average, during the Fifth Plan. Loan ceilings are established which permit financing of up to 60% of the house cost for the smaller units (less than 15 py) with the proportion of financing decreasing as house size increases. As an upper limit, the NHF does not finance units greater than 25 py, which is considered to be the size of a moderate income house. In 1981 about 75% of NHF's funds were directed for units of 13 py or less with another 21% for units of 15 py.

Financial Policies and Structure

3.21 NHF housing loans are mostly made available to local governments, housing cooperatives and KNHC. National housing funds are currently provided mainly in the form of housing construction and housing lottery loans. National housing construction loans, which represent about 96% of NHF's outstanding loans as of end 1981, are released for construction of small houses built in large quantities for low-income families without homes of their own. The loan amount is converted to mortgages and passed on to each purchaser at the time of house purchasing. The current interest rate for loans for construction of units is 10% to be repaid over 20 years on a graduated payment mortgage (GPM) basis, whereby payments increase by a predetermined amount over the life of the mortgage. About 80% of the funds available for lending in 1982 are planned to finance construction of units 15 py and smaller.

3.22 A portion of NHF's loans for construction (about 10%) will be made available for other special projects and rental housing. Included in the category of special projects are disaster relief, redevelopment and solar housing projects which carry an interest rate of 10%, to be repaid over 20 years. Government support in the form of equity contributions for the public sector rental housing program was discontinued in 1981 due to a policy of emphasis on home ownership, but support for rental housing has resumed in 1982 on a smaller scale through loans from NHF. About 9,000 rental units will be supported by the NHF in 1982, including about 2,200 units to be constructed by KNHC. Future plans to support rental housing are uncertain at this time, but proposals are currently being discussed and are expected to be announced soon. Rental housing construction loans are made at 5% to public sector agencies and at 10% for the private sector, over 20 years.

3.23 Housing lottery loans, which represented about 3.7% of outstanding loans at end 1981, are made to veterans and families of those who died in

service. The terms of lending are at 4% over 20 years on a GPM basis. The remaining 0.3% of NHF's portfolio of loans consists of loans to small private developers for site development which were inherited from the NHCL program. Currently, NHF does not advance loans to private developers, but they can seek financing from KHB and CNB. NHF's average on-lending rate for new loans is estimated at about 10% for 1982, and its interest income as a percent of average loan portfolio managed during 1982 is estimated at about 12%.

3.24 With the establishment of the NHF, new funding sources will be available. Among these new sources are various national pension funds (i.e. Government Personnel, Military and Private Teachers' Pension Funds) and direct equity contributions from central government. Pension fund resources previously deposited with commercial banks will be diverted to the NHF, which will pay the same interest rate as would be earned with the commercial banks.^{/1} The term of the pension fund borrowings is 3 years. Pension funds provided W 14.5 billion in 1981 as a source of housing finance to the NHF and are expected to provide about W 46 billion in 1982 or about 11% of NHF's total sources of funds. Government equity contributions will be made available to the NHF for the first time in 1982, providing an estimated W 39 billion or approximately 9% of NHF's total sources of funds.

3.25 The national housing bonds, which are redeemable in five years, are still expected to provide the largest source of funds amounting to about W 148.3 billion in 1982 or 36% of total funds; about W 126 billion of housing bonds were issued in 1981. The remaining sources of funds for NHF's 1982 program are expected to be provided mainly from homebuyers' savings deposits, repayment of housing loans and profits from the housing lottery. As a last source of funds, the NHF plans to issue national housing fund bonds to be purchased on a voluntary basis. These bonds will carry a market interest rate (currently 13.5%) and be redeemable in three years and are expected to be sold mainly to pension funds and insurance companies. Since they carry a high interest rate, they will be issued only if required. Although their market-ability is untested, the high interest rate is expected to guarantee their attractiveness.^{/1} They are estimated to provide about 4% of NHF's fund requirements in 1982. NHF's 1982 average cost of borrowed funds is estimated at 6.35% and total cost of funds at 4.85% (see para. 3.31), and its interest expense as a percent of average funds in use is estimated at about 8.5% in 1982.

3.26 The financial statements for NHF as of December 31, 1981 and for the Fifth Plan are shown in Annex 3, Tables 1-4. At end 1981 NHF had total assets of W 685 billion including outstanding housing loans and mortgages of W 587 billion (86%). Collection practices are good; arrears amounted to about 3.2% of total payments due during 1981. The legal sanctions operate effectively in Korea, thus reducing the number of defaults on mortgages to a minimum. In

^{/1} A three-year savings deposit at a commercial bank currently earns 8% per year.

addition, the current system of salary bonuses every three months allows those late to be able to make up delinquent accounts on a quarterly basis. Collection of payments by homebuyers is the responsibility of NHF (handled by KHB staff in practice), except in those cases where land ownership has not been transferred,^{/1} for which the mortgages are the responsibility of KNHC or local authorities. Even in these cases, payments are made by homebuyers through KHB branch offices or where they do not exist, through commercial bank branch offices.

3.27 NHF's operating revenues are mainly in the form of interest income on loans and mortgages. Its operating expenses include interest payments on savings deposits and borrowings as well as administration expenses. NHF pays administration fees to KHB amounting to 2.2% of the average outstanding balance of loans administered during the year, based on an estimate of KHB's staff costs for handling the NHF program. Based on a survey of administration costs associated with management of other government fund accounts, the NHF fees paid to KHB have been criticized as being high. It is difficult to assess accurately the actual costs associated with managing the fund due to the extensive branch staff involved in administering its operations. Assurances were obtained during negotiations that NHF will re-examine the fee rate at mid-1983 to determine its appropriateness.

3.28 NHF currently offers one type of savings scheme for its depositors, whereby the required monthly deposit varies according to the desired house size. In order to be eligible for a mortgage under the public sector housing program, homebuyers must have an account with NHF and must have made deposits on a continuous basis for at least one year. Priority for loans will be given to those who opened an account first and on the basis of size of deposits. Currently, NHF pays interest on savings deposits (held more than two years) at the interest rate prevailing at the time the account was opened. In early 1982, this interest rate was 13% whereas in April 1982 the rate dropped to 10% and in June 1982 the rate again dropped to 6%, in line with overall interest rate decreases in Korea. Should interest rates on new accounts decrease (as is currently the case), old accounts could continue to receive previous (higher) rate of interest for indefinite periods of time, affecting NHF's overall financial viability. MOC-HB has agreed to revise contracts on new savings deposits to either (a) fluctuate the interest rate with changes in commercial bank deposits or (b) set a time period for which savers are to receive a fixed interest rate. Assurances were obtained during negotiations that contracts for savings schemes will be revised in line with one of the two above methods by July 1983.

NHF's Program for the Fifth Plan

3.29 The basic goals of the Fifth Plan for the housing sector are to enhance the housing supply ratio to 78.4% by 1986 from 74.5% in 1980 and to

^{/1} As is often the case with land readjustment projects, for example, where clear titles to the land may take as long as eight years.

increase the living space per capita to 3.4 py in 1986 from 2.8 py in 1980 through the provision of housing finance to support the construction of about 1.46 million units. NHF would need to provide about W 5,691 billion including W 3,218 billion to support the construction of about 570,000 units (40%) by the public sector and W 1,218 billion to finance debt servicing requirements. The balance of units (60%) would be constructed by the private sector financed primarily by KHB.

3.30 Of the total capital requirements, the largest share, 28% (W 1,598 billion), is expected to be provided through the issuance of national housing bonds which, as mentioned before, are compulsory for those requiring certain licenses, permits or registrations (para. 3.19). The growth in funds to be provided from this source is in line with past performance and is considered reasonable. Government equity contributions are expected to provide about 11% (W 603 billion) and pension funds about 17% (W 957 billion) of the total requirement. Since these are new sources for NHF's program, assurances were obtained during negotiations that government would provide the appropriate level of equity contributions and cause an adequate level of pension funds to be provided to the NHF to support this level of funding. An additional 21% (W 1,186 billion) of funds is expected to be provided from proceeds of housing loans collected over the period, for which no problems are currently foreseen given the current performance with collections. The remaining domestic sources of funds are scheduled to be provided from home buyers' savings deposits (2%), profits from the housing lottery and interest earnings (1%), accrued interest on housing bonds (15%), and lastly through issuance of national housing fund bonds (2%). It is hoped that foreign loans would provide about 4% (W 210 billion) of the total sources of funds, of which about 60% of this is already either committed or under discussion. No major problems are foreseen in NHF being able to meet the above requirements, given the appropriate level of government support.

3.31 This project represents only a small slice (2%) of NHF's 1983-85 program and is intended to support the construction of about 12,550 units at a cost of about \$201.5 million, for which the Bank loan would provide about 40% of the funds requirement. The Bank loan is expected to be made available to the NHF beginning in 1983. Although the current interest rate on the Bank loan (11.43%) is higher than NHF's onlending rate for low-income housing (10%), this is not expected to create any problem regarding NHF's overall financial viability. NHF's 1982 average cost of borrowed funds is estimated at about 6.35%, and its average cost for all resources is estimated at about 4.85% due to several sources of funds with little or no financial cost, including government equity contributions, repayments of previous loans and profits of the housing lottery fund managed by NHF. The Bank loan would be blended with NHF's other resources to yield an average cost of funds which would provide a sufficient margin for management fees.

3.32 An objective of this project is to prepare the NHF to take on major sectoral responsibilities including the appraisal and supervision of the public sector program, in addition to its task of onlending housing finance to implementation bodies such as KNHC, local governments and housing cooperatives. Currently, NHF does not appraise public housing projects in terms of

applying affordability criteria or by assessing market demand. Public sector thinking is that size of unit alone determines the income level of the home buyer, since only low-income families would purchase small units. The ability to conduct proper market demand surveys is being built up in KLDC and KNHC, which will need to be assessed by the NHF in the future. A study of the requirements for and the location of appropriate appraisal capacity for public developer proposals is included under this project to address this issue.

E. Korea Land Development Corporation

3.33 The Korea Land Development Corporation (KLDC) is a government-owned corporation, established on March 27, 1979 as a result of the dissolution and restructuring of the Korea Land Bank. The latter had been created in 1975 to acquire land held by business firms in excess of their operating needs. The problems of coordinating land banking activities with urban development activities led, however, to the creation of KLDC, an organization committed to the goal of improving urban development policies. KLDC's major activities consist of acquiring land suitable for resale and development and sale of land for residential and industrial use. In addition, KLDC has a mandate to shape and carry out government policies on land reclamation, as well as new town and new city development projects. The major near-term priority for KLDC is the development of residential land for low-income groups. A full description of KLDC's activities is given in the appraisal report of the first project;^{/1} developments since then are presented below.

3.34 KLDC's establishment includes a president, executive vice-president, auditor and five vice-presidents and has recently been reorganized into ten departments. In addition to the Seoul-based headquarters staff, the branch offices have been expanded from eight to eleven offices in the past eighteen months and are augmented by project site offices as needed. The organization structure is depicted in Chart 24024.

3.35 At a time when the staff levels of other government departments and government-owned corporations are being reduced, KLDC has been able to continue to expand its professional staff to 312 in its Seoul-based headquarters operation plus some 422 in its eleven branch offices. The staff in the Loan Projects Department, which is responsible for administering Bank supported projects, have been increased nearly two-fold in the past year and a half to 40. In addition to their other duties, these staff have begun to take over the role of project preparation which was previously handled by local consultants, and they have nearly completed preparation of their first project. As these staff become more experienced in this role, KLDC is expected to further decrease its reliance on consultant staff.

3.36 During 1981 KLDC began implementation of projects under the first Bank loan on 9 sites covering over 1 million py in large, medium and small

^{/1} Korea National Urban Land Development and Housing Project, Staff Appraisal Report, Report No. 3298a-KO, March 23, 1981, Chapter III.

urban areas nationwide. Progress on these sites has been excellent in that all works to-date have been completed ahead of schedule and substantially under budget. In addition, KLDC prepared site development plans for 11 other sites and began construction on two of these. KLDC's overall quantitative and expenditure performance for land acquisition and land development projects begun during the year is summarized below:

	Target		Actual		Actual as % of target	
	'000 py	W b.	'000 py	W b.	'000 py	W b.
<u>Land acquisition of:</u>						
Lands for resale and development	2,952	167.4	3,206	162.5	108.6	97.1
Idle business-owned land	4,000	200.0	8,921	78.7	223.0	39.4
<u>Subtotal</u>	<u>6,952</u>	<u>367.4</u>	<u>12,127</u>	<u>241.2</u>	<u>331.6</u>	<u>136.5</u>
<u>Land development</u>	1,881	32.6	2,633	24.9	140.0	76.4
<u>Total</u>	<u>8,833</u>	<u>400.0</u>	<u>14,760</u>	<u>266.1</u>	<u>167.1</u>	<u>66.6</u>

3.37 It is apparent from the table that expenditures for both land acquisition and land development are substantially less than planned in spite of significant overachievement of target in terms of land areas. In addition to its ongoing program of acquisition of lands for immediate resale and for development, a two-year program was initiated in end-1980 by government for KLDC to acquire idle lands held by business firms in excess of their operating needs. This is seen as a measure to reduce speculation, to make lands available for immediate use as well as to improve the liquidity position of firms with significant assets held in land. Because KLDC is given the power to acquire these lands at prices below market values and can pay for them in the form of land debentures with low interest rates, it is not surprising that the business firms have tried to avoid sales of prime lands to KLDC and as a result have sold off forestry and less desirable tracts initially that were lower in value, which accounts for the lower than planned expenditures on this item. The program to acquire the remainder of these lands will, however, be completed in 1982. It should be noted that KLDC does not acquire these lands for land banking purposes but rather resells the parcels as soon as possible. About 1.35 million py of idle land acquired in 1981 were sold in that same year.

3.38 Expenditures for land development were less than planned mainly because contractors are bidding at about 60-70% of government estimates. This is due largely to the keen competition for jobs as a result of the

general recessionary climate and to the fact that large-scale contractors (with foreign operations) use local contracts as training and mobilization bases to support their overall operations.

3.39 More than 2 million py of land were supplied during the year including about 0.84 million py of residential land,^{/1} 0.02 million py of developed industrial land and the 1.35 million py of idle land mentioned above. This represents about 20% more than that planned at the onset. KLDC's performance in its first year of significant works has been exceptional.

Financial Structure and Policies

3.40 To date, KLDC's sources of finance have consisted mainly of capital contributions from the government as equity and issues of land debentures. KLDC started its operations with a total capital of W 38.9 billion, of which 51% was paid in by the government and 49% by the Korea Development Bank. Since then the government has provided W 105 billion as capital contributions to KLDC, of which W 70 billion was contributed in 1981, increasing its paid-in capital to W 143.9 billion as of end 1981. KLDC issues two types of land debentures: to landowners for already developed lands which KLDC would subdivide before resale and to businesses for idle lands which KLDC also plans to resell without further development. Debentures on lands already developed currently carry an interest rate of 10% per year with a maturity of two years. This interest rate is now greater than commercial banks' interest rates on deposits (8%). In addition, debentures are attractive to land owners who sell their lands to KLDC because of exemption from capital gains tax on the land transfer and exemption from income tax on interest income. Currently, the capital gains tax rate varies between 13% and 35%. Debentures issued for acquisition of idle business-owned lands currently carry an interest rate of 5% with a maturity of five years. Although interest rates are very low making the debentures unattractive, business firms must accept the terms which have been set by government. A total of W 121.3 billion in land debentures was issued in 1981, including W 45.6 billion for lands for resale and W 75.7 billion for idle lands. Lands acquired for development are paid in 3-4 installments over a period of usually less than one year.

3.41 The financial statements of KLDC for the years 1980-81 are summarized in Annex 3, Tables 5-7. KLDC's current financial position appears to be sound with adequate net working capital. Total assets as of end 1981 are W 361.0 billion, composed mainly of land for sale at W 136.6 billion (38%) and construction in progress of W 146.6 billion (41%).

3.42 KLDC's mandate requires it to earn a profit on sales of developed middle-income residential land as well as commercial land and lands purchased

^{/1} Including both developed lands and lands for immediate resale.

for resale including idle lands from businesses, which are sold at competitive bids. For serviced low-income residential and industrial land, KLDC earns no profit but sells the lands at a price to recover all costs, both direct and indirect. In 1981, profit before tax amounted to about 15.8% of total sales, including low-income residential and industrial sites. On lands developed under the first Bank-supported project, KLDC sells serviced low-income residential sites at a price less than cost by the process of cross-subsidization whereby the profits generated from the sale of middle-income areas on the same sites are used to lower the sales price of the low-income areas. Since the middle-income areas may not be marketed before the low-income areas are turned over to KNHC or other agencies for development of housing, KLDC can only estimate the amount of cross-subsidy in this sale price, for which the pricing formula is roughly equal to 75% of average development cost of the site. It is not possible at this time to determine whether the pricing formula for low-income areas reflects the lowest price reasonably achievable, but performance under the first project will be closely monitored to determine the best pricing formula for sites to be developed under this project.

Future Program and Financial Projections

3.43 KLDC's investment program for the 5-year period 1982-86 calls for the acquisition of 25.5 million py of land including 15.0 million py of land for development and 10.5 million py of land for immediate resale. About 15.5 million py of land is projected to be developed during this period, with the main emphasis on development of low-income residential land. Based on KLDC's exceptional performance under the first project and with an additional staff complement, this program is considered to be within its implementation capacity. The total capital requirements for this program would be about W 2,734 billion (US\$3.7 billion) in constant (September 1982) prices.

3.44 The proposed project, for the development of residential sites in 6 cities in Phase I and several cities yet to be identified in Phase-II (see para. 2.07) on about 1.43 million py of land, is estimated to cost about W 75 billion (US\$101.35 million), representing approximately 3% of the budget projected for KLDC's total operation over 1982-86.

3.45 The financial forecasts for KLDC for the period 1982-86, including income statements, balance sheets and sources and applications of funds statements are presented in Annex 3, Tables 5-7. The forecasts indicate that KLDC is expected to generate surpluses on its operations, all of which will be retained for its ongoing program. Equity contributions from government amounting to about W 340 billion (US\$459 million) in constant prices will be requested, which represents about 12% of the capital requirement for the five-year development program. Discussions between KLDC staff and senior government officials indicate commitments by government of this order are being programmed for implementation of the Fifth Plan. The W 40 billion budgeted by the government for 1982 has already been received. The past and present support by government in the form of equity contributions to KLDC is

unusual in the current Korean economic context where government is actively reducing budgetary allocations to ministries and agencies. This is an indication of the high priority which government attaches to addressing housing inequities. Government assurances to provide an adequate level of equity contributions were obtained during negotiations. The remaining sources of financing for the Fifth Plan include land sales, foreign and domestic loans and land debentures.

F. Korea National Housing Corporation

3.46 The Korea National Housing Corporation (KNHC), established in 1962, is a government-owned corporation whose purpose is to supply, finance, improve and manage housing to help reduce the housing shortage in Korea. It is the agency charged with implementing the country's public housing programs. KNHC operates under the direction of MOC which supervises its operations in consultation with the Ministry of Finance.

3.47 KNHC's headquarters staff have been recently reorganized into five operational directorates covering 14 departments (see Chart 24025). The five directors (of planning, administration, business, architecture and construction) report through the executive vice president to the president. Supervision of housing construction, a key element in this project, is done by site offices that report directly to the department of construction. The director of construction oversees the work of the department of civil engineering as well as the department of construction.

3.48 In 1981 KNHC constructed about 45,000 units in 31 cities nationwide, which represents a 50% increase over its 1980 output of about 30,100 units. Almost all units built are apartments which range in size between 7 and 25 py with the majority 13-15 py. Due to recent changes in interest rates for mortgages and down payments required, these units are now much more affordable to the low and middle-income groups./1

3.49 KNHC previously constructed rental housing as well as units for sale, but in 1981 the rental housing program was discontinued by government directive as an economic stabilization measure geared toward encouraging greater home ownership. This program has been reinstituted on a small scale in 1982 during which time KNHC would construct about 2,200 units, as compared to more than 15,000 rental units constructed in 1980. The future program will be dependent on progress with occupancy under the 1982 program. The rental status of these units is temporary, since KNHC is expected to convert the units to sale after about five years of occupancy, somewhat longer than the 1-3 years previously. KNHC also manages the housing estates it builds,

/1 As an example, a 15 py apartment which was affordable at the 33rd percentile of the urban household income distribution at an interest rate of 13% at the end of last year is currently affordable at the 19th percentile at an interest rate of 10%.

and this currently includes about 94,000 units consisting of 26,600 rental units and 67,300 sale units. KNHC manages housing units after sales for about 1 year, on average, before turning the units over for management by the residents.

Financial Structure and Policies

3.50 Sources of financing for KNHC currently include borrowings from the National Housing Fund (NHF), foreign borrowings, key money and down payments from purchasers. Government equity contributions which were previously used to partially finance the rental housing program were discontinued in 1981; the future rental housing construction program will be financed by long-term loans from the NHF at low interest rates. As of December 1981, total paid-in capital was W 135.2 billion of which the government had provided about 94% and Korea Development Bank about 6%. From 1978, KNHC has paid dividends to the government and KDB at 1% of contribution amount. Retained earnings amounted to about W 133.0 billion at the end of 1981. Long-term borrowings are primarily from the NHF whose loans are currently at 10% for sale housing and at 5% for rental housing, over 20 years. Six foreign loans have been made to KNHC by USAID at terms ranging between 8 and 9.5% over 25 years, two loans by ADB at 7.6% and 10.1% for 20 years and one World Bank loan at 9.6% for 15 years. KNHC's average cost of borrowed funds for 1981 was about 14.6% and is expected to be about 10% in 1982.

3.51 At end 1981 KNHC had total assets of W 815 billion including W 204.6 billion (25%) of rental units/1 and W 429.4 billion (53%) of mortgages held by KNHC. Currently, about 122,220 mortgage accounts and 22,600 rental accounts are managed by KNHC. Collection practices are relatively good; arrears amounted to about 3.3% for rental fees and 1.0% for management fees due in 1981 although arrears on mortgages and down payments/2 have deteriorated to 10.3% from 2.8% in 1980. This situation is mainly attributed to delays by home purchasers in paying second down payment installments, which must be collected before settlement. This performance is expected to improve as the economy recovers. KNHC charges a premium on these late payments equal to the current commercial bank rate on short-term loans.

3.52 KNHC's operating revenues are generated mainly from the sale of constructed units, rental of housing units (both national housing projects and foreigner apartment complexes), management of the housing estates and interest payments by mortgage holders. KNHC's rental operation has, in the aggregate, been and is expected to be profitable both while the units are being rented and when the units are converted to sale. In addition to the rental charge, a monthly management fee is charged the renters to cover KNHC's costs of managing the estates.

/1 Valued at cost less depreciation.

/2 Down payments (payable in installments before purchase) have not been separated for collection purposes from normal monthly mortgage payments.

3.53 For houses constructed for immediate sale, the sales prices charged by KNHC for the housing units are adequate to recover all expenditures both direct and indirect. KNHC, as the public housing authority, has a policy to sell the units it constructs at a price to recover all costs with no profit. The sales earn profit for KNHC to the extent that sales prices, estimated before construction is completed, exceed actual construction and overhead costs on the pre-sold units, which has consistently been the case. Housing units are sold on a free-hold basis currently requiring a 40-50% down payment, with a mortgage to be provided from funds rolled over from the NHF, at the same terms, i.e., 10% interest rate over 20 years.

3.54 For its housing management operation, KNHC prepares estimates of its expenses one year in advance, including a provision for price escalation, and determines the appropriate management fee to be charged. In the past, the fees collected were sufficient such that no problems were encountered in providing the necessary services (para. 5.04) associated with estate management.

Future Program

3.55 To meet the government's goal of housing construction over the next five years as enumerated in the Fifth Plan, KNHC plans to construct about 310,000 units, including about 230,000 units (mostly apartments) under its ongoing national housing program, about 56,000 units /1 (core and row houses and apartments) under its foreign loan program and about 24,000 rental units. Based on government's review of its rental policies, the construction program for rental units may change somewhat during the plan period. The 1983 program of 60,000 units represents a 50% increase over the 1982 program of 40,000 units, but KNHC has demonstrated that it can carry out an increase in the necessary administration requirements of this order of magnitude during this past year. For each subsequent year of the Fifth Plan, the number of units to be constructed represents an annual increase of about 7-8%, which is considered to be within KNHC's ability to implement.

3.56 The total capital requirements for the construction program would be about W 2,404 billion (US\$3.2 billion) in constant prices. Down payments from house purchases and rental deposits (key money) would provide about 40% of the capital requirements. The main source of borrowings would be from the NHF, which would provide about 60% of the total sources of funds. The proportion of funds provided by the various sources is in accordance with current practice. The financial forecasts appear in Annex 3, Tables 8-10.

3.57 The housing component of the proposed project, which includes about 10,080 units to be built by KNHC, is estimated to cost about W 119.7 billion (US\$161.8 million). This represents a small portion, about 3%, of KNHC's total program over 1982-86.

/1 About 41,000 units of this total have been identified under ADB and IBRD loans already approved or appraised.

3.58 Since 1979, KNHC has been experiencing some difficulty in selling its units compared to earlier years when most of the units were pre-sold. At end March 1982, KNHC had an unsold stock of about 4,570 units which represents about 11% of the units constructed in 1980 and 1981. Although this continues to present a real concern for KNHC, this performance has improved over 1979 when about 57% of the units constructed in that year were unsold by the end of the year. KNHC undertook market demand studies as part of this project; this should reduce the possibility of unsold units in the future.

IV. IMPLEMENTATION ARRANGEMENTS

A. Project Coordination

4.01 The Ministry of Construction (MOC) Housing Bureau will be responsible for project coordination through a senior level Liaison Committee chaired by the Director-General and consisting of representatives of the Land Bureau, KLDC and KNHC. This Liaison Committee should meet periodically and report to the Bank on progress and project development. The Director-General of the Housing Bureau will have ultimate responsibility for coordination and project implementation.

4.02 The remaining sites will be selected by KLDC based on KNHC's requirements and on the site selection criteria agreed with the Bank (paras. 4.06-4.09). These criteria were developed by MOC, KNHC and KLDC incorporating the separate selection criteria used by each agency. The Phase I sites except that for cooperative housing were agreed between KLDC and KNHC from a list selected by KLDC. Already selected project sites are distributed between four major and two secondary cities.

4.03 KLDC will be responsible for acquiring and developing the land, marketing the commercial and residential areas, arranging for school sites to be turned over to relevant educational institutions and ensuring that an adequate supply of reasonably priced, serviced land is available for low-income housing needs. For projects undertaken through CPL, KLDC will have the sole responsibility for land development; however, the one LR project (Suweon) will be jointly undertaken by KLDC and the city government. The city mayor will be the legal implementing authority for the project. Through an agreement with the municipality, KLDC will undertake site planning, engineering and construction works on behalf of the city. All dealings with original land owners will be undertaken by the city government, including agreement on the basic development plan for the area.

4.04 KNHC will have responsibility for the construction and sale of housing for low-income families on all but one Phase I site and most Phase II sites. Lands required by KNHC for the construction of low-income housing will generally be purchased from KLDC at cross-subsidized prices and will subsequently be sold together with the core houses, row houses and apartments that are purchased by families who meet the project's eligibility

requirements. KLDC and KNHC will consult on the plans for these sites, and KNHC will review the drawings and specifications provided by KLDC for these sites. Assurances on these arrangements were obtained at negotiations. KLDC and the local governments of Daijeon and any other city or cities selected will be responsible for supervising the housing cooperative component of the project. KLDC will advertise the terms and conditions for participation by cooperatives and review cooperatives' applications, while the local authorities will borrow from the NHF on behalf of these organizations and disburse the funds for construction. This process is discussed in detail in paras. 4.20-4.22.

B. Site Selection

4.05 Phase I sites were agreed jointly by MOC, KLDC and KNHC, to satisfy their respective site selection criteria. Eighteen sites in 12 cities were examined jointly by KLDC and KNHC. Site selection criteria (Annex 11, Item 17) common to all three agencies will be used for the remaining sites. The criteria incorporates the major considerations of each agency and includes a scoring and weighting system to allow ranking of sites. Specific items considered are: city growth rate, housing deficit and strategic importance (for city selection); marketability, location, transport access, land use status and zoning, conditions for land development, utilities, obstacles, surrounding environment and development regulations applicable to the site (for site selection). The scoring system includes a failing grade which would eliminate sites which are unacceptable on any criterion.

4.06 The procedures for the selection of Phase II sites will be as follows: Within six months of and also eighteen months after the commencement of Phase I, KNHC will advise KLDC of the cities in which it plans to build houses during the following year, specifying the number of units, size of low-income residential land needed, the maximum cost per pyong of developed land which would meet the affordability targets of the project, and the locational constraints, such as accessibility to employment and public and community facilities and amenities, which the sites must meet. This would in effect be the application of the mutually agreed site selection criteria to specific cities.

4.07 Within two months following receipt of KNHC's requirements, KLDC will advise KNHC of the sites which it has identified that fulfill these criteria and which are available for acquisition and for which obtaining development approval is plausible. It is anticipated that in some secondary cities sites suitable to KNHC may not be large enough to permit development of part of the land to be sold for uses other than low-income housing, thereby permitting cross-subsidization. In such cases, the acquisition cost of the land and the projected cost of development must be low enough to meet the affordability targets.

4.08 Within a month of receiving KLDC's list of proposed sites, KNHC will commit itself to acquire the developed low-income land on the suitable sites. Any units in the KNHC's Phase II program for the upcoming year which cannot be accommodated on the agreed KLDC sites would be built on other sites selected by KNHC and agreed with the Bank. If KLDC's output of the low-income residential land development program for the upcoming year of Phase II will not be fully utilized by KNHC, KLDC would develop additional sites which would be selected using the criteria agreed with the Bank on which the low-income residential land would be sold to local governments or housing cooperatives for housing construction.

4.09 Sites covering at least 60% of the Phase II areas are expected to be developed by KLDC for sale to KNHC. The Bank will review Phase II land development and housing proposals of the agency before implementation. These arrangements were agreed at negotiations.

C. Site Planning and Infrastructure

4.10 Feasibility studies were carried out by local consultants on the four sites selected to be Phase I. Each site plan was developed based on two to three alternative approaches at cost reductions, mostly in earthworks. Efficiency of plan layout and lowered costs have been stressed during feasibility studies and subsequent reviews by Bank and KLDC staff. The design features of each site are summarized in Annex 5 and overall planning criteria and design standards are briefly described in the following paragraphs.

4.11 The housing estates are planned for mixed residential development of low and middle-income families with sites varying from 25,000 py to 220,000 py in Phase I. CPL sites has been emphasized as a means to expedite acquisition and implementation, although a LR site (Suweon) will be included in the project.

4.12 Site plans have been developed based on the local municipal master plans and with street orientations that respect the north-south axis of housing alignment. During the feasibility studies alternative site plans were evaluated to determine least cost cut and fill options while attempting to optimize hilly locations for good views. Generally, the site plans have improved since the earlier Bank project, reflecting more alternative approaches, respect for the impact of infrastructure costs as a function of topography, and a greater level of experience and concern on the part of KLDC staff.

4.13 Future expansion of the sites including requirements for roads, water supply and drainage systems have been provided for. Costs for provision for future expansion will be allocated to the municipalities.

4.14 Land use plans reflect a mix in proportions similar to the first project, although there are some efficiencies learned through that project

that are illustrated in this project. Areas for roads, for example, decrease from a range of 23-26% in previous CPL sites to 18-24% on current CPL sites. All sites will conform to MOC criteria with a minimum 2% of the land area reserved for parks and playgrounds; public areas between community facilities, parks and recreation areas would range from 2% to 12%. This possible variation depends on the existence of these facilities in immediate proximity to the respective sites. Saleable residential land averages about 67% of gross site area in the CPL projects. In the LR site, the residential portion of the gross site area is 17%. Roads and circulation, water supply, sewerage, drainage and electricity distribution, and planning and design standards are similar to those of the first project.

D. Land Development

4.15 As in the first project, two methods of land development will be used under this project: CPL and LR. CPL is the conventional method involving outright purchase of land for development by public authority. Land readjustment on the other hand, is a mechanism for land development practiced mainly in Korea, Taiwan, Japan and Australia, whereby the public authority develops the land in partnership with the landowners./1 KLDC has been developing fewer sites under LR due to the length of processing time and extra burden imposed by the process.

4.16 - The CPL sites would be fully serviced with paved roads, drainage and water supply. Traditionally, the level of services provided under LR projects has been significantly lower than that of CPL. The site developed through the LR method in this project will be provided with the main water supply and drainage networks but roads will not be paved, except for principal arterial streets through the site which will initially be paved for 7 m width, though designed for future widths of 10 m or more. Only the low-income residential areas in the LR scheme will be fully serviced to levels comparable to CPL. The cost of this additional infrastructure, termed as second stage development, will be recovered through the land sales and will not be borne by the site as a whole. In most LR projects the water supply mains, and in a few cases the secondary network, are funded by the city governments and recovered through user charges. Electric power and telephone service will be provided by the respective national agencies concerned and will also be recovered directly through user charges. All project sites will provide space for commercial areas and community facilities such as schools, homes for the

/1 Under LR, a site with many owners is first declared a readjustment area. The executive agency then prepares a subdivision plan, obtains the approval of the participants, installs basic infrastructure and sells a portion of the site at market prices to recoup all development and management costs. The remainder of the site is returned as serviced plots to the owners in proportion to the value of their original holdings.

elderly, community centers, kindergartens and parks, to be constructed and operated by private institutions and local government agencies.

E. Housing Mix Determination

4.17 KLDC will sell about 40% of the net residential land on all but the two sites for housing cooperatives to KNHC, which will construct and market a mix of three types of low-income dwellings: single storey core houses (designed for future expansion by the occupants), 2-storey row houses and 5-storey walk-up apartments.

4.18 It has been agreed with the government that the housing provided under the project will be targeted and distributed to the income group between the 15th and 50th percentile, and that the mix of housing types will be determined by market surveys. KNHC conducted demand studies between May and October 1982 in the first six project cities as the basis for determining housing mix on these sites (Annex 11, Item 11). The results of the demand studies were made available to the Korea Research Institute for Human Settlements (KRIHS) and to the Bank, along with KNHC's housing mix proposals, for review before preparing layouts and plans for the sites. These results were used to verify the viability of KNHC's proposals agreed at negotiations.

Public Facilities

4.19 The project sites would require a number of facilities and services which are not included in the KLDC or KNHC components such as schools, markets, police stations, post offices and off-site electricity and telephone services. These facilities will be provided and financed by respective local/central government agencies or companies such as Korea Electric Power Company. These services have been provided in a timely manner in other projects.

F. The Housing Cooperatives' Sites

4.20 KLDC and the local governments of Daegu and of any other cities selected will be responsible for coordinating the implementation of the housing cooperatives component and will use, for the most part, procedures already established by MOC. KLDC will advertise the criteria, conditions and restrictions for participation in the project. Criteria include minimum size, and source of membership of cooperatives, the eligible income range and that candidates do not already own a house; conditions include the size and terms of available loans and the repayments required; and, among the restrictions, the house obtained under the project may not be resold within two years without the clearance of the local governments. To encourage participation of the lowest income groups, these advertisements will also indicate the potential number of units, the cost of land, possible minimum plot size and the level of affordability achievable. Housing cooperatives must consist of at least 20 household heads who live in the particular city or work for the

same company in the city and must register with the city governments. Each cooperative will decide on the size and type of units to be built, the amount of funds they will need to borrow for housing construction, a plan for purchasing the land from KLDC and the arrangement for constructing their units. These points would be covered in the proposals which the cooperatives would need to submit to the local authorities. Eligible cooperatives would be encouraged to open an NHF savings account, as the size of savings will influence the ranking of the groups.

4.21 In selecting cooperatives KLDC will attempt to achieve, as closely as possible, the income distribution objectives of the project. Priority will be given first to cooperatives formed from members of the same firm which have NHF savings accounts; next, to community cooperatives which have NHF accounts. When cooperatives have otherwise equal priority, additional weight will be given to the size of the NHF savings deposits, however, comparisons will only be made between cooperatives at the same levels.

4.22 The local governments will inform the selected cooperatives, MOC-HB/Policy Division and NHF of the successful applicants. The successful cooperatives whose notification include a commitment of financial support must fulfill a number of conditions to stay in the program during implementation. The land must be acquired promptly from KLDC from their own resources and architectural approval for their proposed construction must be applied for within three months. In addition, construction must be completed within an agreed period and any changes in the membership must be approved. The local authorities will borrow from the NHF on behalf of the housing cooperatives and will enter into loan agreements with the cooperatives for passing on the funds. As security the cities will hold the first mortgage on the land. Proceeds of the loan would be withdrawn to make progress payments for construction and on completion the loan would be converted to individual mortgages held by the local authorities. Payments would be made by the members of the cooperatives to the city governments who would in turn repay the NHF. All procedures for the participation of cooperatives in the project were confirmed at negotiations.

G. Implementation Schedule

4.23 The project would be implemented over a three-year period (late 1982 to end-1985). A project implementation schedule is shown in Chart 24018. Land acquisition for Phase I sites is scheduled to be completed by the time of loan effectiveness, estimated to occur in first quarter 1983. Land development should begin shortly after land acquisition, as detailed engineering for Phase I sites is complete and the preparation of contract documents has begun. Housing construction should begin in early 1984.

H. Procurement

4.24 No foreign contractors have expressed interest in prequalifying for any of the three previous urban sector projects financed by the Bank, and none are anticipated to do so for this project. However, foreign contractors will

be invited to prequalify for this project for civil works valued at over US\$2 million, and should any prequalify all contracts for such works will be awarded on the basis of international competitive bidding (ICB) to prequalified contractors in accordance with Bank guidelines. If, as anticipated, no foreign contractors express interest or prequalify, all contract documents will be issued in Korean and bidding times reduced in keeping with local competitive bidding practice. Other Bank guidelines for competitive bidding will be maintained, however. The Bank will review on a sampling basis contract documents for works of a value in excess of \$2 million and for materials over \$100,000. The formats of procurement documents in use in the first project have already been approved by the Bank and these formats will be also be used in this project. KLDC is expected to bid out each site as a single contract including both land preparation and infrastructure (roads, sewers, water supply, etc.) with the possible exception of major off-site infrastructure which could possibly be bid out separately. Essentially, therefore, KLDC will bid about 15-16 contract packages which may range in value from US\$1-10 million each. KNHC will also draw on their experiences of procurement for the first project and bid out housing construction at each project site in phases to limit the size of each housing package to about 300-500 units, i.e. 30-50 housing contracts. The first housing contract at each site will also include secondary infrastructure. Specialized work on landscaping at each site will be bid out separately. The typical value of KNHC contracts is likely to be in the range of US\$4-6 million. KNHC is likely to use OSROK (Office of Supply ROK) as the formal procurement agency for their contracting. All material supply for both KLDC and KNHC contracts are likely to be the responsibility of the contractor, although contracts will require purchase of certain special items like cement, steel and precast concrete elements like pipe, from nominated suppliers like OSROK, in accordance with procedures satisfactory to the Bank.

4.25 The housing cooperatives, under the supervision of the local governments, will contract with Government Registered Builders for the construction of their housing units using local procedures acceptable to the Bank. The number of units per contract is estimated to vary between 20-100 for values ranging between US\$200,000 and US\$1.2 million.

I. Disbursements

4.26 Disbursements under the proposed loan would be at the rate of 60% for land development civil works, 75% of NHF disbursements to KNHC, and 100% for staff training, consultancy services and studies. A separate set of disbursement categories has been set up for KLDC and NHF in order to facilitate use of funds by these agencies. NHF will submit to the Bank statements of expenditures setting out disbursements to KNHC indicating the equivalent work progress these represent. The establishment of a project account by NHF is a condition of disbursement. Supervision missions will carry out ex-post reviews of work progress. The disbursement procedures were agreed at negotiations. Disbursement for KLDC would be made against evidence of

payments to contractors. It is expected that disbursements will be completed by December 1986.

4.27 The estimated quarterly disbursement schedule is shown in Annex 6 along with the country profile. A shorter disbursement period has been estimated than the country profile, due to the stage of project preparation and performance under the first housing loan. As stated previously, the majority of land acquisition and detailed engineering work will be completed by loan effectiveness, major items which have been attributed to delays in project start-up experienced in the urban sector in the past. The first urban project in Korea was effectively disbursed in four years, but due to surpluses in the loan amount and the addition of other components, full disbursement took somewhat longer. Further, the agencies involved in the first housing loan would be better experienced with Bank disbursement documentation and procedures, and this is expected to expedite the disbursement process.

J. Accounts and Audits

4.28 The same system of accounts and audits as in the first project will be used in this project. Separate project accounts would be maintained by KLDC, KNHC and NHF with respect to their project components. In the case of the NHF where Statements of Expenditure will be used, its system of accounting and disbursements, which is considered adequate for purposes envisaged under this project, will be used. Assurances were obtained at negotiations that these agencies will: (a) maintain separate accounting records for all project revenues and expenditures; (b) ensure adequate and timely working capital is provided to finance the project; and (c) have the project accounts including NHF's Statements of Expenditures audited by an independent auditor acceptable to the Bank and these audit reports submitted to the Bank no later than six months after the end of each fiscal year. In this connection, it was agreed during negotiations that performance of the audit would be carried out by the Board of Audit and Inspection, Republic of Korea.

K. Supervision

4.29 Overall supervision requirements in this project should be reduced since review of progress of the first housing loan would be combined with this project. KLDC and KNHC already prepare relatively complete documentation of implementation progress and with further refinement, this should reduce Bank staff inputs. However, requirements for carrying out the sector dialogue, which is an important part of the development of the housing sector program in Korea, is expected to consume a major portion of staff time in the early years. As a result, supervision input is estimated to require approximately 10 staff weeks annually. About one-half of the time indicated would be in the field.

L. Monitoring and Evaluation

4.30 A monitoring and evaluation program recently begun under the first project will be continued under this project. Baseline information on the sites and the affected population would be collected. Project performance would be monitored regarding the timing and cost of development, and the impact of the project on the affected population would be evaluated based on surveys to ascertain the changes which resulted from the project compared to changes which occurred for a control group who were not a part of the project. KNHC will be responsible for data collection and analysis for housing; KLDC will be responsible (probably with consultant assistance) for data and analysis for land development. The data from these two sources will be made available to KRIHS to be fed into a sector information and monitoring system, which they are preparing for government use. The Bank will receive copies of all relevant studies produced by these three agencies. These arrangements were confirmed at negotiations.

V. COST RECOVERY AND AFFORDABILITY

A. Cost Recovery Policies and Terms of Purchase

5.01 The acquisition, subdivision, servicing and sales of land will be carried out by KLDC in coordination with local government agencies. About 40% of the total net residential land provided through the project will be earmarked for the low-income families and handed over to KNHC and housing cooperatives for the construction of housing units. The primary target group for the project will be families in the 15th-50th percentile of the urban household income distribution. Families below this group will benefit from rental space which will become available through the project.

5.02 The actual cost of land acquisition/compensation, site preparation, infrastructure, housing construction, management costs, interest during construction and design and supervision will be recovered from the beneficiaries through land sales, down payments and mortgage payments to the NHF. Sale of commercial and upper income residential land at market prices on mixed-uses sites will generate profits which will be utilized to lower (cross-subsidize) the sale price of the low-income land. Housing would be provided only for the target group and would be sold at cost with long-term mortgages. Land for public facilities will be sold at cost to the respective agencies. Arrangements regarding the timing and terms of sale of land by KLDC to KNHC and housing cooperatives for housing construction will be detailed in agreements between KLDC and the housing construction agencies. Ratification of the agreement between KLDC and KNHC is a condition of loan effectiveness.

5.03 Mortgages will be issued upon receipt of a 40% down payment from the target-income house purchasers with the balance to be paid over 20 years at the prevailing NHF interest rate for low-income house purchasers, which currently is 10% with a slightly graduated payment method.^{/1} The arrangements for mortgage financing to project beneficiaries were confirmed at negotiations.

^{/1} The first payment would cover the interest only and would increase each year by a fixed amount during the life of the mortgage, as in the first project.

The down payments would be in line with NHF's current national requirements, which have been revised to 40% on the smaller units which it finances, down from the 60-80% of recent years required under the public sector housing program. The down payments are not considered excessively high in the Korean context, where families typically accumulate their down payments through savings, key money deposits, occasionally from the sale of property and contributions from relatives which are generally not repaid. In the past most home buyers in Korea typically paid cash for the full purchase price. Even renters are required to pay large sums of "key money" to acquire a modest rental space.

5.04 In accordance with prevailing practice, infrastructure, including roads, drains and water supply will be turned over to the respective cities for operation and maintenance, the costs of which will be recovered through taxes, utility and user charges. KNHC will manage the estates in the first year and will provide or arrange to provide, among other things, for garbage collection, security, clearance of septic tanks, cleaning of streets and drains, street lighting and maintenance of playgrounds and other common areas. A management fee will be levied on the basis of house size to recover the above costs. It has been the practice for KNHC to turn the estates over to the occupants after about one year for self-help management and it is expected that this practice will be followed in this project. The residents will hire full-time staff to manage the estates who will levy the appropriate fee. Management of the estates will not require any input by the respective cities.

5.05 The chargeable costs of land and infrastructure development for four of the Phase I sites as well as estimated sales prices of low-income land are summarized below:

Chargeable costs	Anyang (CPL)	Jeonju (CPL)	Suweon (LR)	Gangreung (CPL)
	-----	(won million)	-----	-----
Land acquisition/compensation	4,814.3	6,300.0	961.3	635.3
Site preparation including infrastructure	2,598.2	2,820.0	4,570.0	553.0
Physical contingency, 10%	259.8	282.0	457.0	55.3
Design fee, 3%	77.9	84.6	137.1	16.6
Management costs, 3%	80.3	87.1	141.2	17.1
Interest during construction, 9%/a	257.2	279.2	452.4	54.7
<u>Total Chargeable Development Cost (April 1982 prices)</u>	<u>8,087.7</u>	<u>9,852.9</u>	<u>6,719.0</u>	<u>1,332.0</u>
Marketable area (py)	90,843	131,744	51,884	18,320
Average development cost (w/py)	89,029	74,788	129,500	72,707
Cross-subsidized sale price of low-income land (w/py)/b	70,285	49,155	110,915	38,460

/a KLDC's estimated cost of funds during Phase I.

/b See project files for details.

5.06 As mentioned previously (para. 3.42), on sites developed for multiple uses KLDC would sell serviced low-income residential sites at a price less than cost by the process of cross-subsidization. Since the middle-income residential and commercial areas may not be marketed before the low-income areas are turned over to the housing construction agencies, KLDC can only estimate the amount of cross-subsidy in this sale price. Performance under the first project will be closely monitored to determine the best pricing formula for the sites developed under this project, allowing a premium for risk to KLDC for uncertainty associated with future sales of the upper-income areas.

5.07 The commercial and open market residential plots would be sold through competitive bidding or direct contract. The middle-income households are expected to arrange their own financing for house construction. The marketable areas and sales prices of the residential and commercial parcels are based on market surveys conducted in early 1982 by land assessors.

5.08 Off-site infrastructure costs would be shared equally by central and local governments, which is in line with the financing arrangements for areas promoted for housing estates as designated by MOC. The costs of off-site infrastructure would be recovered by the cities indirectly through taxes and other user charges. Details of off-site infrastructure are available in project files.

B. Affordability

5.09 The affordability calculations are based on the assumption that families in the target group can afford to spend about 30% of their monthly income on housing, excluding utilities and taxes.^{/1} Management fees, property taxes, electricity, heating and water charges and cooking briquettes are estimated to represent an additional 5-8% of total monthly income.^{/2} A common practice in Korea is for more than one household to share a house in order to afford the high housing costs. Extensive housing surveys have confirmed this practice.^{/3} The units being provided under the project are being designed to provide a room suitable for renting, which could provide additional income to the owners. Any additional income generated from the renting of a room by the target beneficiaries is assumed to be already accounted for in this 30% monthly allotment for housing.

^{/1} Based on results of 1978 Survey of Urban Wage and Salary Earners conducted by KHB and supported by an empirical analysis of Korean housing expenditure patterns by Song and Struyk, which is based on a special housing survey that augmented the 1974 Family Income and Expenditure survey administered by EPB.

^{/2} Supported by data collected as part of a KRIHS survey of rentors and owners in 1980.

^{/3} Based on the same 1978 Survey of Urban Wage and Salary Earners and previous surveys conducted in 1973 and 1974.

5.10 The income distribution figures used for the analysis were based on official data published in 1981 by EPB and projected to first quarter 1982 (Annex 7). Projected incomes for 1982 were then matched with the estimated construction costs to determine the affordability levels of the various house types, which is reflected in the following table:

Type of unit	% of units to be built	Land cost/a -----	House cost/b (million won)	Estimated sale price -----	Percentile of urban house- hold distribu- tion at which affordable /c
12 py core house	10	3.00	7.46	10.46	17
15 py apartment	30	1.88	9.02	10.90	19
15 py row house	30	3.60	7.44	11.04	20
17 py apartment	30	2.13	10.28	12.41	27

/a Assumes that the cost of cross-subsidized serviced land plus any additional secondary infrastructure in secondary cities will not exceed W 100,000/py.

/b April 1982 cost estimates provided by KNHC based on current contracts, including all overheads and allied expenses.

/c Assuming a 40% down payment and a graduated mortgage over 20 years with payments increasing by a fixed amount over the life of the mortgage. The interest rate is 10% for all units.

Market demand surveys were undertaken to determine the percentage of house types constructed within each of the four groups above. Based on these assumptions, all units constructed would be affordable by households below the 30th percentile. For the case of Suweon, a satellite city to Seoul, where cross-subsidized land plus secondary infrastructure costs are expected to be about 30% greater than other secondary cities, the same affordability levels will be achieved, since income levels are about 34% greater there than the national average. Annex 8 summarizes unit costs for land and housing development at Anyang which is a representative site in Phase I.

VI. PROJECT JUSTIFICATION AND RISKS

A. Economic Justification

6.01 As in the first National Land Development and Housing Project, the principal justification for this project is in terms of its ability to ameliorate the housing shortage in the project cities, provide employment opportunities in the construction sector and strengthen institutions in the housing sector. With the inclusion of development by housing cooperatives in the project framework, it is hoped that impetus will be generated for

private as well as public sector institutional development. As indicated above, the housing shortage in project cities is acute. The ratio of dwelling units to households ranges from a low of 56% in Anyang to 75% in Gimhae with a median among all project cities of approximately 65%. Thus the proposed project will provide developed land necessary to ameliorate significant housing shortages in project cities.

6.02 The imputed rental values of the dwellings to be constructed at the various sites and estimated market values of the serviced commercial and open market land were used to measure the benefits of the project. Estimates of rental values were based on current rents charged by KNHC and the private sector for similar housing units in the project cities. Estimates of land values were based on market surveys conducted in 1981 by land assessors of adjacent parcels of similar land to the sites to be developed. Land and development, infrastructure, housing and recurrent (maintenance) costs were considered in the analysis with all taxes excluded. Shadow prices, applicable only to unskilled labor which constitutes a minor fraction of total construction costs, were judged not to have a major impact on the rates of return and hence were not considered. Rates of return were found to be insensitive to standard conversion factors. The economic rates of return for the 6 sites ranged from 7.4% to 14.6% and are summarized in the following table. The weighted average rate of return for Phase I, which is about 55% of the total project (excluding technical assistance) was found to be 12.5%. The relatively low estimated rate of return for Gimhae, the smallest city in the project, is due to lower projected rentals and land sales prices, mostly a reflection of the lower average incomes of residents there. The experience gained in developing this site (which accounts for only 7% of Phase I project costs) will be useful in the longer-term sector and policy dialogue on housing (see paras. 1.22 and 2.01) and in the planning of future programs that address the problems of the smaller urban centers.

Table VI-1: RESULTS OF ECONOMIC ANALYSIS

Project city	Internal economic rate of return	Sensitivity analysis, IERR		
		Cost increase by 10%	Benefits decrease by 10%	Benefits increase by 10%
<hr/>				
Phase I				
Anyang I	14.0	11.9	11.7	16.3
Suweon	14.6	12.0	11.8	17.6
Jeonju	12.2	10.2	10.0	14.5
Gangreung	11.0	8.5	8.3	14.0
Gimhae	7.4	5.4	5.2	9.7
Daijeon	11.8	9.6	9.4	14.2
<hr/>				
Average Phase I	12.5	10.4	10.2	14.9

6.03 Rates of return estimated for Phase I of this project are generally lower than those estimated for the first project, which had an overall estimated rate of return of 16.5%. This is largely attributable to a continuing rise in land development and housing construction costs and virtual stagnation in sales prices of land and housing. Should relative prices of land and housing resume their upward trend of the late 1970s, as appears to be the case as of late 1982, project rates of return could easily approach those projected for the first project.

B. Project Impact on Urban Poverty Population

6.04 As of 1980, an estimated 18% of households in Korean cities had incomes less than the urban poverty threshold. The project is expected to benefit households between the 15th and 50th percentiles of the income distribution, providing both direct and indirect benefits to households below the poverty threshold. Indirect benefits will result in part from subletting of rooms provided by direct project beneficiaries in accordance with typical patterns of house sharing in Korea. For example, it is estimated that about one-third (4,183) of the households accommodated by the 12,550 housing units to be provided under the project will sublet rooms to low-income individuals and small households, most of whom will be drawn from the poverty population. Assuming, for example, that rooms of 3 py (10 sq m) would be rented for W 20,000 per month (close to the weighted average rent based on project estimates of rent per pyong), households spending 25% of income for such rooms could be drawn from well below the 10th percentile of the income distribution. Other indirect benefits to the poverty population are expected to result from reduced upward pressure on rents resulting from an increased housing supply. The project is expected to satisfy a significant proportion of the shortage of housing and developed land in each project city, thereby creating a moderating influence on housing prices throughout the housing market.

C. Project Risks

6.05 Currently domestic interest rates for housing in Korea are lower than international lending rates, including the interest rate on World Bank loans. Over time it is expected that domestic interest rates would move closer to international interest rates. An upward movement of interest rates during project implementation would affect affordability targets. Should NHF interest rates for low-income housing increase by 2%, for example, 12 py core units which are currently affordable to households at the 17th percentile of the urban household income distribution would require household incomes at the 28th percentile. Thus, the effect of a 2% increase in NHF interest rates would be to shift the affordable group to whom the units are currently designed from the 15-50th percentile to the 25-50th percentile of the income distribution. As there is an understanding with the government that the

changes in interest rates and costs relative to incomes would require reconsideration of the type and mix of units, this should not seriously affect project objectives. See Annex 10 for a summary of housing interest rate movements since 1977.

VII. AGREEMENTS REACHED AND RECOMMENDATIONS

7.01 During negotiations, agreements were reached on:

- (a) a study on subsidies in the housing sector and their allocation (para. 1.16);
- (b) arrangements for passing on the front end fee to the relevant agencies (para. 2.19);
- (c) a study of the requirements for and location of appropriate appraisal capacity for public developer proposals (paras. 1.20 and 3.32);
- (d) the participation of housing cooperatives in the project (para. 2.05);
- (e) the content of studies to be undertaken under the project (para. 2.14); and
- (f) disbursement procedures for NHF expenditures. Establishment of the NHF project account is a condition of disbursement (para. 4.26).

7.02 The following agreements were confirmed during negotiations:

- (a) housing planning and allocation criteria (para. 2.04);
- (b) the use of the senior-level Liaison Committee and the joint city and site selection criteria (para. 2.07);
- (c) arrangements for on-lending Bank funds through subsidiary loan agreements. Signing of these agreements are conditions of loan effectiveness (para. 2.18);
- (d) arrangements for the carrying out of housing demand studies (para. 4.18);
- (e) procedures for the participation of housing cooperatives in the project (para. 4.22);
- (f) arrangements for monitoring and evaluation (para. 4.30);

- (g) agreement between KLDC and KNHC on the timing and sale of land for housing construction. Ratification of this agreement is a condition of loan effectiveness (para. 5.02); and
- (h) arrangements for mortgage financing for project beneficiaries (para. 5.03).

7.03 During negotiations, assurances were obtained on the following:

- (a) The continuation of government/Bank dialogue on housing policies (para. 1.22);
- (b) timely provision of, and monitoring and reporting on, public facilities and services required on each site (para. 2.13);
- (c) agreements between KLDC and local authorities on project implementation and timely provision of funds by local authorities for off-site infrastructure and community facilities (para. 2.17);
- (d) financing arrangements will be established between NHF and KNHC. The signing of this agreement is a condition of disbursements (para. 2.19);
- (e) government would provide the appropriate level of equity contribution to NHF and KLDC (paras. 3.30 and 3.45) and would cause an adequate level of pension funds to be provided to the NHF (para. 3.30);
- (f) NHF re-examine the appropriateness of the fee rate paid to KHB for administration of its program (para. 3.27);
- (g) NHF contracts on savings schemes be revised to either (i) fluctuate the interest rate with changes in commercial bank deposits or (ii) set a time period for which savers are to receive a fixed interest rate by July 1983 (para. 3.28);
- (h) arrangement for KLDC and KNHC consultation on site plans, and KNHC review of KLDC drawings and specifications (para. 4.04); and
- (i) maintenance by KLDC, KNHC, local governments and NHF of separate accounting records for all project revenues and expenses; provision of adequate working capital to finance the project; and auditing of by an independent auditor acceptable to the Bank and the submission of these reports to the Bank no later than six months after the end of each fiscal year (para. 4.28).

7.04 With agreements and assurances as indicated above, the project is suitable for a Bank loan of US\$100 million equivalent for 15 years with a grace period of 3 years and the standard variable interest rate.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Total Project Costs
(Won million)

	Phase I						Subtotal Phase I	Phase II	Total	
	Anyang	Jeonju	Suwon	Gangreung	Daijeon	Gimhae			(W mln)	(\$ mln)
<u>KLDC</u>										
Land acquisition/compensation	4,814.3	6,300.0	961.3	635.3	6,124.5	1,263.9	20,099.3	17,155.0	37,254.3	
Site preparation	2,598.2	2,820.0	4,570.0	553.0	3,270.0	1,135.6	14,946.8	12,756.0	27,702.8	
Design (3%)	77.9	84.6	137.1	16.6	98.1	34.1	448.4	384.0	832.4	
Management costs (3%)	80.3	87.1	141.2	17.1	101.0	35.1	461.8	393.0	854.8	
Physical contingency (10%)	259.8	282.0	457.0	55.3	327.0	113.6	1,494.7	1,276.0	2,770.7	
Price contingency	508.9	622.2	407.3	83.0	644.7	167.8	2,433.9	3,152.0	5,585.9	
<u>Total</u>	<u>8,339.4</u>	<u>10,195.9</u>	<u>6,673.9</u>	<u>1,360.3</u>	<u>10,565.3</u>	<u>2,750.1</u>	<u>39,884.9</u>	<u>35,116.0</u>	<u>75,000.9</u>	<u>101.35</u>
<u>City/Central Government</u>										
Off-site infrastructure	1,150.0	400.0	-	-	740.0	744.0	3,034.0	2,820.0	5,854.0	
Physical contingency (10%)	115.0	40.0	-	-	74.0	74.4	303.4	282.0	585.4	
Price contingency	251.6	87.5	-	-	161.9	162.8	663.8	483.0	1,146.8	
<u>Total</u>	<u>1,516.6</u>	<u>527.5</u>	<u>-</u>	<u>-</u>	<u>975.9</u>	<u>981.2</u>	<u>4,001.2</u>	<u>3,585.0</u>	<u>7,586.2</u>	<u>10.25</u>
<u>KNHC</u>										
House construction	16,071.9	21,170.9	7,159.2	2,725.2	-	3,797.1	50,924.3	42,167.0	93,091.3	
Management costs (4%)	642.9	846.8	286.4	109.0	-	151.9	2,037.0	1,687.0	3,724.0	
Price contingency	3,759.8	4,952.7	1,674.8	637.5	-	888.3	11,913.1	11,006.0	22,919.1	
<u>Total</u>	<u>20,474.6</u>	<u>26,970.4</u>	<u>9,120.4</u>	<u>3,471.7</u>	<u>-</u>	<u>4,837.3</u>	<u>64,874.4</u>	<u>54,860.0</u>	<u>119,734.4</u>	<u>161.81</u>
<u>Housing Cooperatives</u>										
House construction	-	-	-	-	11,822.8	-	11,822.8	11,000.0	22,822.8	
Management costs (4%)	-	-	-	-	472.9	-	472.9	440.0	912.9	
Price contingency	-	-	-	-	2,765.8	-	2,765.8	2,871.0	5,636.8	
<u>Total</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>15,061.5</u>	<u>-</u>	<u>15,061.5</u>	<u>14,311.0</u>	<u>29,372.5</u>	<u>39.69</u>
<u>Technical Assistance</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,036.0</u>	<u>1.40</u>
<u>Front-End Fee</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,093.7</u>	<u>1.48</u>
<u>GRAND TOTAL</u>	<u>30,330.6</u>	<u>37,693.8</u>	<u>15,794.3</u>	<u>4,832.0</u>	<u>26,602.7</u>	<u>8,568.6</u>	<u>123,822.0</u>	<u>107,872.0</u>	<u>233,823.7</u>	<u>315.98</u>

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Sources of Project Finance
(Won billion)

Project component	Total	World Bank loan passed on to /a			NHF	KLDC	KNHC	Hsg coops	Local/ central gov't
		KLDC	MOC/NHF	MOF					
Land acquisition/ compensation	37.25	-	-	-	-	37.25	-	-	-
Site preparation and on-site infrastructure	27.70	16.62	-	-	-	11.08	-	-	-
House construction	115.92	-	41.27	-	28.28	-	37.24	9.13	-
Design	0.83	-	-	-	-	0.83/b	-	-	-
Management costs	5.49	-	-	-	-	0.86	3.72	0.91	-
Off-site infrastructure	5.85	-	-	-	-	-	-	-	5.85
Physical contingency	3.36	1.66	-	-	-	1.11	-	-	0.58
Price contingency	35.29	2.87	9.45	-	6.56	2.72	9.17	3.38	1.15
Technical assistance	1.04	0.82	0.22	-	-	-	-	-	-
Front end fee	1.09	-	-	1.09	-	-	-	-	-
<u>Total</u>	<u>233.82</u>	<u>21.97</u>	<u>50.94</u>	<u>1.09</u>	<u>34.84</u>	<u>53.85</u>	<u>50.13</u>	<u>13.42</u>	<u>7.58</u>
<u>Total (US\$ million equivalent)</u>	<u>315.98</u>	<u>29.68</u>	<u>68.84</u>	<u>1.48</u>	<u>47.08</u>	<u>72.77</u>	<u>67.74</u>	<u>18.14</u>	<u>10.25</u>

/a All World Bank loan funds are passed on as loans to project agencies except for funds under the category of technical assistance earmarked for studies which would be passed on as grants, amounting to about W 0.15 billion (US\$0.2 million equivalent).

/b Financed under the first project, Loan 1980-KO.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Assumptions Used in Preparation of Financial Statements

I. National Housing Fund

A. Income Statements

1. Interest income on deposits with KHB and other income:
Assumed to grow at 15% per year.
2. Interest expense on savings accounts: Calculated at 13% for
for accounts opened in 1981 and 6% for accounts opened in 1982
and thereafter and assumes savings remain in accounts for 2
years, on average.

B. Source and Application of Funds Statement

1. Savings deposits: Assumed to grow at 20% per year.
2. Housing lottery funds: Assumed to grow at 20% per year.
3. National housing bonds: Assumed to grow at 20-25% per year,
in line with current practice.
4. National housing fund bonds: Assumed to grow at 10% per year.
5. Pension funds (including KNHC transfer in 1982): Assumed to grow
at 20% per year.
6. Government equity: Assumed to grow at 20% per year after 1983.

C. Balance Sheets

1. Interest receivable on loans: Assumed at about 5% of interest
owed during the year.
2. Interest payable on deposits: Since accounts must be held for
two years to receive full interest, the amounts represent the
accrued interest liability.

II. Korea Land Development Corporation

A. Income Statements

1. Sale of land: Based on a total supply of 20.3 million py over
the period; assumed at 20-25% above cost of sales.
2. Cost of sales: Assumes 60% of total cost is cost of land and
40% is cost of development, on average.
3. Expenses for land maintenance: Assumed to grow at 13% per
year.

4. Other operational expenses: Includes mainly the costs of design, survey and project preparation; assumed to grow at 10% per year.
5. Salaries: Based on the following number of employees per year: 1982-876, 1983-1000, 1984/85-1100, 1986-1200. Staff increases are in line with expected increases in number of branch and field offices and training department, and includes both administrative and technical staff in the proportion 60:40.
6. General and administrative: Associated increases to support salary increases in item 5.
7. Other: Mainly contingent expenses.
8. Depreciation: Assumes straight-line depreciation on machines, fixtures and equipment over 1-5 years.
9. Taxes: (a) Corporation tax = 5% of earnings before tax; (b) Inhabitant tax = 7.5% of corporation tax; and (c) Defense tax = earnings before tax x 5% x 25% + earnings before tax x 22% x 37.5%.

B. Source and Application of Funds Statements

1. Land debentures for resale and idle land: Issued to finance majority of lands acquired for resale.
2. Government contributions: Current budgeted amounts; planned to be discontinued after 1986.
3. Land acquisition and development: (a) Land acquisition: based on average land price of about 50,000 won/py for land to be developed further, 120,000 won/py for land for resale and 34,000 won/py for nonbusiness-owned land; (b) Land development: based on average development cost of 30,000 won/py with development taking place over 2 years in the proportion 65:35.

C. Balance Sheets

1. Accounts receivable on land sold: Assumed at 30% of land sales based on payment schedule of 10% down and three installments of 30% each over a one year period.
2. Land, construction in progress: Inventory accounts including 5% overheads.
3. Accounts payable on land acquired: 30% of land acquired for development, based on same payment schedule as item 1 above.
4. Accounts payable to contractors: 30% of land development costs incurred during the year, based on same payment schedule as item 1 above.

III. Korea National Housing Corporation

A. Income Statement

1. Sale of housing units: Assumes 4.21 million py of floor space sold over the period.
2. Sale of rental units: Assumes existing rental stock sold as planned with 0.38 million py of floor space sold over the period but with new rental units being held for 5 years before sales.
3. Rental fees: Assumes floor area of stock held at beginning of year times a unit fee of 17,825 won/year/py for Korean housing complexes and 140,025 won/year/py for foreigner apartment complexes.
4. Management fees: Assumes floor area of stock managed at beginning of year times a unit fee of 34,580 won/yr/py for centrally heated units and 5,820 won/yr/py for ondol heated units.
5. Housing units cost of sales: Assumed at about 94% of sales price.
6. Rental units cost of sales: Assumed at about 83% of sale price, allowing margin for expected profits.
7. Rental housing operating cost: Assumes floor area of stock held at beginning of year times a unit expense of 27,230 won/yr/py for Korean housing complexes and 92,996 won/yr/py for foreigner apartment complexes.
8. Management expenses of housing units: Assumed to equal management fees (item 4 above).
9. Personnel costs, administrative and other expenses: Assumed to increase proportionately with construction program; i.e., 50% in 1982 and 8% thereafter.
10. Defense tax: Assumed at 10.1% of earnings before tax; in line with previous years' taxes.

B. Balance Sheets

1. Accounts receivable: Assumes 20% of mortgage payments, rental and management fees and 10% of down payments of units sold.
2. Inventory and other assets: Assumed to increase in proportion to increasing construction program, i.e., 50% in 1982 and 8% thereafter.
3. Depreciation on rental units: Calculated on a straight line basis over 50 years.
4. Deferred assets: Assumed to increase by 10% per year.
5. Accounts payable: Assumed at 10% of total construction program.
6. Other current liabilities: Assumed to increase by 10% per year.
7. Reserves and allowances: Assumed to increase by 10% per year.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

National Housing Fund

Opening Balance Sheet and Balance Sheet at December 31, 1981
(million won)

	At			At	
	07/20/81	12/31/81		07/20/81	12/31/81
ASSETS			LIABILITIES AND CAPITAL		
<u>Current Assets</u>			<u>Current Liabilities</u>		
Cash and time deposits	56,304.0	17,870.1	Homebuyers' savings deposits	3,414.8	13,125.5
Interest receivable on loans	-	3,169.3	Interest payable on deposits	44.0	2,920.7
Other	236.0	5.4	Advances payable and others	275.6	797.5
Short-term loans receivable			Loan commitments	739.5	-
from contractors	1,003.2	1,247.4	Short-term loans payable	-	3,577.8
<u>Total Current Assets</u>	<u>57,543.2</u>	<u>22,292.2</u>	Short-term bonds payable	-	3,279.4
<u>Operating Assets</u>			<u>Total Currents Liabilities</u>	<u>4,473.9</u>	<u>23,700.9</u>
Housing loans			<u>Long-Term Liabilities</u>		
Site development loans	1,027.7	990.2	National housing bonds	430,653.9	491,617.2
Housing construction loans	384,810.9	563,513.8	Government borrowings	1,319.3	1,229.8
Housing lottery fund loans	18,864.5	21,491.4	Pension funds	-	14,500.0
Loans advanced from govern-			Reserve fund for interest on		
ment borrowings	1,334.4	1,233.6	national housing bonds	673.9	22,326.7
Reserve fund receivable from			Reserve fund to be transferred		
KHB for accrued interest			by KHB for accrued interest		
on housing bonds	76,823.1	75,229.8	on housing bonds	76,823.1	75,229.8
<u>Total Operating Assets</u>	<u>482,860.6</u>	<u>662,458.8</u>	<u>Total Long-Term Liabilities</u>	<u>509,470.2</u>	<u>604,903.5</u>
			<u>Capital</u>		
			Government advance transferred		
			by KNHC	-	24,500.0
			Housing lottery funds	26,459.7	29,734.9
			Profit	-	1,911.7
			<u>Total Capital</u>	<u>26,459.7</u>	<u>56,146.6</u>
<u>TOTAL ASSETS</u>	<u>540,403.8</u>	<u>684,751.0</u>	<u>TOTAL LIABILITIES AND CAPITAL</u>	<u>540,403.8</u>	<u>684,751.0</u>

NATIONAL HOUSING FUND
INCOME STATEMENTS FOR THE YEARS ENDING DECEMBER 31
(MILLION WON)

	7/20-12/31 1981	1982	1983	1984	1985	1986
<hr/>						
OPERATING REVENUES						
<hr/>						
INTRST INCOME ON HOUSING LOANS:						
SITE DEVELOPMENT	30	79	73	67	61	56
HOUSING CONSTRUCTION	26323	93254	130344	187604	254507	332664
HOUSING LOTTERY LOANS	354	860	876	892	920	965
LOANS MADE FROM GOV'T BORROWINGS	44	99	92	86	80	75
SUB-TOTAL	26751	94292	131385	188649	255568	333760
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
INTRST INCOME ON DEPOSITS WITH KHB AND OTHER INCOME	2485	4960	5704	6560	7544	8675
 TOTAL OPERATING REVENUE	 29236	 99252	 137089	 195209	 263112	 342435
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
OPERATING EXPENSES						
<hr/>						
INTRST EXPENSE ON:						
SAVINGS ACCTS	445	2210	2872	2433	2916	3495
NAT'L HSG BONDS /A	21744	66576	78496	87355	94459	94804
NAT'L HSG FUND BONDS		1241	3847	6713	8625	9690
GOV'T BORROWINGS	38	76	64	59	48	37
PENSION FUNDS	60	2458	6138	11514	17907	33968
WORLD BANK LOAN			43	1247	3453	5205
OTHER FOREIGN BORROWNGS			2763	7780	11103	14746
 TOTAL OPERATING EXPENSE	 22287	 72561	 94223	 117101	 138511	 161945
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
 TOTAL OPERATING PROFIT	 6949	 26691	 42866	 78108	 124601	 180490
 <hr/>						
MANAGEMENT AND ADMINIS- TRATION FEES /B	5037	16932	17602	39768	54303	71558
 NET INCOME	 1912	 9759	 25264	 38340	 70297	 108932
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

F

/A INTEREST EXPENSE REPORTED ANNUALLY BUT PAID AT END OF 5 YEARS.

/B 2.2% OF AVERAGE LOAN PORTFOLIO MANAGED BY KHB DURING THE YEAR.

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INTEREST INCOME FROM LOANS AS % OF AVERAGE LOAN PORTFOLIO (%)	11.96	10.63	10.58	10.48	10.38	
 INTEREST EXPENSE AS % OF AVERAGE FUNDS IN USE (%)	8.52	7.40	6.40	5.48	4.64	
 INTEREST SPREAD (%)	3.43	3.23	4.18	5.01	5.75	
 RETURN ON EQUITY (%)	13.28	14.15	12.59	15.43	17.10	

NATIONAL HOUSING FUND
SOURCES OF APPLICATIONS OF FUNDS FOR YEARS ENDING DECEMBER 31
(MILLION WON)

	ACTUAL 1981/A	1982	1983	1984	1985	1986
NO. HOUSING STARTS TO BE FINANCED:						
LOCAL GOV'T	23405	29970	41250	41250	45000	48750
KNHC	45006	40000	55000	55000	60000	65000
OTHERS	9171	10030	13750	13750	15000	16250
TOTAL	77582	80000	110000	110000	120000	130000

SOURCES OF FUNDS

INTERNAL SOURCES

SAVINGS DEPOSITS	13125	16800	20160	24192	29030	34836
INTRST INCOME ON TIME DEPOSITS WITH KHB	2485	4960	5704	6560	7544	8675
HOUSING LOTTERY FUNDS	6122	6200	7400	8800	10500	12600
ACCRUED INT ON HSG BONDS	22327	91201	161579	214165	214780	193683

REPAYMENT OF LOANS:

SITE DEVELOPMENT-INTRST	80	79	73	67	61	56
-PRINC.	74	82	76	69	64	58

CONSTRUCTION & MORTGAGES

-INTRST	57984	93254	130344	187604	254507	332664
-PRINC.	21101	19680	20167	21893	26053	32505

HOUSING LOTTERY-INTRST

-PRINC.	760	860	876	892	920	965
	1475	1130	1145	1165	1193	1228

LOANS MADE FROM GOV'T

BORROWINGS-INTRST	131	99	92	86	80	75
-PRINC.	202	178	177	175	174	170

TOTAL INTERNAL SOURCES	125866	234523	347793	465668	544906	617516
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BORROWINGS

NATIONAL HSG BONDS	152041	200000	251360	307860	379110	459240
NATIONAL HSG FUND BONDS		18384	20222	22245	24469	26916
PENSION FUNDS	14500	46000	67200	110640	296768	436122
WORLD BANK LOAN				21062	18309	12331
OTHER FOREIGN LOANS			47636	38870	18420	44400

TOTAL BORROWINGS	166541	264384	386418	500677	737076	979009
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GOVERNMENT EQUITY

TRANSFER BY KNHC OF GOV'T ADVANCES /B		39000	105000	126000	151200	181400
	24500	10000				

TOTAL SOURCES	316907	547907	839211	1092344	1433182	1777925
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	ACTUAL 1981/A	1982	1983	1984	1985	1986
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APPLICATIONS OF FUNDS

LOANS FOR CONSTRUCTION

LOCAL GOV'T PROJECTS	51642	129688	185649	218269	250484	297201
KNHC	173811	231586	331516	389767	447293	530717
OTHER	11701	24702	35362	41575	47711	56610

TOTAL CONST PROJECTS	237154	385976	552527	649611	745488	884528
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ADMINISTRATION

	5037	16932	17602	39768	54303	71558
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DEBT SERVICE

SAVINGS ACCTS /C-INTRST	445	2210	2872	2433	2916	3495
-PRINC.				13125	16800	20160
NAT'L HSG BNDS/D-INTRST	8486	17584	44848	57669	93844	115901
-PRINC.	25061	51992	73461	94462	123107	152041
NAT'L HSG FND BDS/E-INTRST		1241	3847	6713	8625	9690
-PRINC.					18384	20222
PENSION FUNDS/F-INTRST	60	2458	6138	11514	17907	33968
-PRINC.				14500	46000	67200
GOV'T LOANS/G-INTRST	38	76	64	59	48	37
-PRINC.	89	178	177	175	174	170
WORLD BNK LOAN/H-INTRST			43	1247	3453	5205
-PRINC.						4309
OTHR FOR. LOANS/I-INTRST			2763	7780	11103	14746
-PRINC.						8744

TOTAL DEBT SERVICE	34179	75739	134213	209677	342361	455888
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INCREASE (DECREASE) IN

WORKING CAPITAL	40537	69260	134870	193288	291030	365950
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TOTAL APPLICATIONS	316907	547907	839211	1092344	1433182	1777925
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- /A FOR WHOLE YEAR, INCLUDING PERFORMANCE UNDER NHCL PROGRAM MANAGED BY KHB FROM 1/1-7/19.
/B THESE FUNDS REPRESENT GOV'T EQUITY CONTRIBUTIONS TO KNHC FOR ITS RENTAL HOUSING PROGRAM. BECAUSE THE RENTAL PROGRAM WAS DISCONTINUED IN 1981, THESE FUNDS ARE BEING DIVERTED TO THE NHF.
/C INTEREST ASSUMED AT 6% FROM 1982 FOR ACCOUNTS KEPT FOR 2 YEARS. INTEREST RATE IS 13% FOR ACCOUNTS OPENED IN 1981.
/D BONDS ISSUED UNDER PREVIOUS NHCL PROGRAM TRANSFERRED TO NHF. BONDS ISSUED FROM 1982 ASSUMED AT 5% INTEREST FOR 5 YEARS WITH INTEREST AND PRINCIPAL TO BE PAID AFTER 5 YEARS.
/E ASSUMES 13.5% INTEREST FOR 3 YRS WITH PRINCIPAL PAID AFTER 3 YEARS.
/F ASSUMES 8% INTEREST, 3 YEARS WITH PRINCIPAL PAID AFTER 3 YEARS.
/G EXISTING LOANS ARE AT 6.5%. NO NEW LOANS ENVISIONED.
/H ASSUMES 11.43% INTREST, 15 YEARS WITH 3 YEARS GRACE. INCLUDES FRONT END FEE OF ABOUT W 762 MILLION EQUIVALENT (\$1.03 MILLION) WHICH HAS BEEN CAPITALIZED IN THE LOAN AMOUNT.
/I ASSUMES 11.6% INTEREST, 15 YEARS WITH 3 YEARS GRACE.
/J FOR PERIOD JULY 20-DEC. 31 ONLY.

NATIONAL HOUSING FUND
PROFORMA BALANCE SHEETS FOR YEARS ENDING DECEMBER 31
(MILLION WON)

	1982	1983	1984	1985	1986
ASSETS					
CURRENT ASSETS					
CASH & TIME DEPOSITS	7288	14063	13294	86370	256372
INTEREST RECEIVABLE ON LOANS	4652	7299	10409	13967	18180
CURRENT PORTION LOANS RECEIVABLE	21565	23302	27484	33961	41992
TOTAL CURRENT ASSETS	33505	44664	51187	134298	316543
OPERATING ASSETS					
SITE DEVELOPMENT LOANS	832	763	699	641	590
HOUSING CONSTRUCTION LOANS	908403	1437557	2059355	2770238	3611746
HOUSING LOTTERY LOANS	20384	20699	21266	22138	23385
LOANS MADE FROM GOV'T BORROWINGS	879	704	530	360	192
RESERVE FUND RECEIVABLE FROM KHB FOR ACCRUED INTEREST ON HSG BONDS	59630	22900			
TOTAL OPERATING ASSETS	990128	1482623	2081850	2793377	3635913
TOTAL ASSETS	1023633	1527287	2133037	2927675	3950968
LIABILITIES AND CAPITAL					
CURRENT LIABILITIES					
SAVINGS DEPOSITS	29925	50085	61152	73382	88059
INTEREST PAYABLE ON DEPOSITS	2210	1611	1929	2313	2772
CURRENT PORTION LOANS PAYABLE	177	175	174	13223	14567
CURRENT PORTION BONDS PAYABLE	73461	94462	141491	172263	222245
TOTAL CURRENT LIABILITIES	105773	146333	204746	261182	327643
LONG-TERM LIABILITIES					
NATIONAL HOUSING BONDS	566164	723062	907815	1134884	1394124
NATIONAL HOUSING FUND BONDS	18384	38606	42467	46714	51385
GOV'T BORROWINGS	875	700	526	356	188
ACCRUED INTEREST ON NAT'L HSG BONDS	150831	184479	214165	214780	193683
PENSION FUNDS	60500	127700	223840	474608	843530
WORLD BANK LOAN			21062	35062	41738
OTHER FOREIGN BORROWINGS		47636	86506	96182	131838
TOTAL LONG-TERM LIABILITIES	796754	1122183	1496381	2002586	2656486
CAPITAL					
GOV'T EQUITY	39000	144000	270000	421200	602600
GOV'T ADVANCE TRANSFERRED BY KNHC	34500	34500	34500	34500	34500
HOUSING LOTTERY FUNDS	35935	43335	52135	62635	75235
SURPLUS	11671	36935	75275	145572	254504
TOTAL CAPITAL	121106	258770	431910	663907	966839
TOTAL LIABILITIES AND CAPITAL	1023633	1527287	2133037	2927675	3950968

LONG-TERM DEBT/EQUITY 6.58 4.34 3.46 3.02 2.75

KOREA LAND DEVELOPMENT CORPORATION
INCOME STATEMENTS FOR THE YEARS ENDING DECEMBER 31
(MILLION WON)
CONSTANT 1982 PRICES

	---ACTUAL---		-----PROJECTED-----				
	1980	1981	1982	1983	1984	1985	1986
OPERATING REVENUES							
SALE OF LAND	14318	42246	130720	239347	315234	385238	451185
RENT RECEIVED	171	288	705	670	843	986	1144
COMMISSION FEES	424	101	62	62	62	62	62
INTEREST & OTHER INCOME/A	7276	13983	13250	12588	15105	17672	20499
TOTAL OPERATING REVENUE	22189	56618	144737	252667	331244	403958	472890
COSTS AND EXPENSES							
COST OF SALES							
COST OF LAND	5056	21396	62746	115207	156577	185228	219766
COST OF DEVELOPMENT	3370	14264	41830	76805	104384	123486	146510
EXPENSES FOR LAND MAINT.	46	130	964	1089	1230	1390	1571
EXPENSES FOR COMM. WORKS	58	72	16	16	16	16	16
OTHER OPERATIONAL EXPENSE	71	358	721	793	872	960	1056
SALARIES	2515	4045	5841	6666	7333	7333	7998
GENERAL & ADMINISTRATION	864	1580	2421	2752	3010	2980	3228
OTHER	178	156	2280	2560	2500	2500	2500
DEPRECIATION	35	48	62	81	106	136	171
TOTAL OPERATING EXPENSE	12193	42049	116881	205969	276028	324029	382816
GROSS OPERATING INCOME	9996	14569	27856	46698	55216	79929	90074
LESS: INTRST ON DEBENTRES	1731	7895	12083	13076	12505	14508	23430
INTRST ON LOANS			4308	9188	7858	6838	8731
OTHER INT & CHGS./B			826	2172	3444	4903	6586
TOTAL INTEREST	1731	7895	17217	24436	23807	26249	38747
INCOME BEFORE TAXES	8265	6674	10639	22262	31409	53680	51327
TAXES/C	1776	1282	1583	3311	4672	7985	7635
NET INCOME	6489	5392	9056	18951	26737	45695	43692

/A INCLUDES INTEREST INCOME ON LAND SALES INSTALLMENTS, BANK DEPOSITS, SHORT-TERM INVESTMENTS AND LOANS OUTSTANDING WHICH WERE INHERITED FROM KOREA LAND BANK.

/B INCLUDES ISSUING EXPENSE FOR DEBENTURES, DEVALUATION LOSSES ON FOREIGN LOANS, COMMITMENT FEES AND HANDLING CHARGES.

/C INCLUDES CORPORATION, INHABITANT AND DEFENSE TAXES

INCOME BEFORE TAX AS % OF SALES	57.72	15.80	8.14	9.30	9.96	13.93	11.38
SALES AS % OF OPERATIONAL ASSETS	5.42	6.87	10.13	15.51	18.44	19.29	20.40
INCOME BEFORE TAX/ EQUITY	11.18	4.64	5.78	7.84	8.18	12.37	10.61

KOREA LAND DEVELOPMENT CORPORATION
SOURCES AND APPLICATIONS OF FUNDS STATEMENTS
(MILLION WON)
1982 CONSTANT PRICES

	-----ACTUAL-----		-----PROJECTED-----				
	1980	1981	1982	1983	1984	1985	1986
KLDC TOTAL PROGRAM ('000 PY)							
LAND ACQUISITION:	1270	12127	8204	3540	4252	4500	5000
LAND FOR DEVELOPMENT	755	2721	1604	2820	3412	3430	3700
LAND FOR RESALE	515	485	600	720	840	1070	1300
IDLE BUSINESS LAND		8921	6000				
LAND DEVELOPMENT	940	2633	2848	2620	2770	3330	3960
IBRD PROJECT ('000 PY)							
LAND ACQUISITION FOR DEVELOPMENT		171	994	265			
LAND DEVELOPMENT			114	767	550		
SOURCES							
INTERNAL SOURCES							
LAND SALES	14318	42246	130720	239347	315234	385238	451185
OTHER INCOME	7871	14372	14017	13320	16010	18720	21705
TOTAL INTERNAL SOURCES	22189	56618	144737	252667	331244	403958	472890
BORROWINGS							
LAND DEBENTURES-RESALE	18344	45600	50000	60000	70000	90000	110000
LAND DEBENTURES-IDLE LD	2530	75700	200000				
DOMESTIC BORROWINGS			50000	50000	10000		
WORLD BANK LOANS /A		1023	20000	12353	8116	4631	1211
FUTURE FOREIGN LOANS					8000	16700	24000
TOTAL BORROWINGS	20874	122323	320000	122353	96116	111331	135211
GOVERNMENT CONTRIBUTIONS	15000	70000	40000	100000	100000	50000	50000
RESERVES AND ALLOWANCES		436	523	628	753	904	1085
TOTAL SOURCES	58063	249377	505260	475648	528113	566193	659186

- /A INCLUDES DISBURSEMENTS UNDER PROPOSED LOAN AS WELL AS DISBURSEMENTS UNDER LOAN 1980-KO FOR WHICH DISBURSEMENTS ARE ASSUMED AS FOLLOWS: 1981-W1023 M., 1982-W 20,000 M., 1983-W4013 M. ABOUT W76 M. UNDER PROPOSED LOAN PASSED ON AS A GRANT FOR MONITORING AND EVALUATION STUDIES.
- /B LAND DEBENTURES FOR RESALE LANDS FOR TERM OF 2 YEARS WITH PRINCIPAL PAID AT END. THE INTEREST RATE ON BONDS ISSUED IS 18.6% IN 1979, 17.1% IN 1980, 14.82% IN 1981, 10% IN 1982 AND ASSUMED TO BE 10% PER YEAR THEREAFTER. LAND DEBENTURES ISSUED FOR IDLE BUSINESS LANDS FOR TERM OF 5 YEARS WITH PRINCIPAL PAID AT END, EXCEPT FOR SPECIAL ISSUE OF W 50 BILLION IN 1981 FOR WHICH EQUAL INSTALLMENTS OF PRINCIPAL PAID EACH YEAR.
- /C ASSUMES 10%, 1 YEAR.
- /D LOAN UNDER FIRST PROJECT AT 9.6% FOR 15 YEARS WITH 3 YEARS GRACE ON PRINCIPAL. LOAN UNDER THIS PROJECT ASSUMED @ 11.43% FOR 15 YEARS WITH 3 YEARS GRACE AND FRONT END FEE OF 1.5% CAPITALIZED IN THE LOAN AMOUNT.
- /E ASSUMED AT 11.6% FOR 15 YEARS WITH 3 YEARS GRACE AND FRONT END FEE CAPITALIZED IN THE LOAN AMOUNT.

APPLICATIONS

LAND ACQ. & DEVELOPMENT							
LAND ACQ. FOR DEVELOPMENT	18364	102542	75000	141000	170000	172000	185000
LAND ACQ. FOR RESALE	28577	138702	272000	86000	100000	128000	156000
LAND DEVELOPMENT	15735	24929	73000	73000	80000	100000	119000
TOTAL LAND & DEVELOPMENT	62676	266173	420000	300000	350000	400000	460000
SALARIES & ADMINISTRATION	3379	5625	8262	9418	10343	10313	11226
OTHER EXPENSES	388	764	4043	4539	4724	5002	5314
TAXES	1776	1282	1583	3311	4672	7985	7635
INCREASE IN FIXED ASSETS		944	3255	181	206	236	271
TECHNICAL ASSISTANCE				363	363	364	
DEBT SERVICE							
LAND DEBENT /B -INTRST	1731	7895	12083	13076	12505	14508	23430
-PRINC.		13471	28344	55600	60000	72530	95799
DOMESTIC LOAN /C-INTRST			3250	6500	3900	650	
-PRINC.				50000	50000	10000	
WORLD BNK LN /D-INTRST			1058	2688	3722	4259	4400
-PRINC.					2001	2001	3859
OTHER FOR LN /E/-INTRST					236	1929	4331
-PRINC.							
OTHER INT & CHARGES			826	2172	3444	4903	6586
TOTAL DEBT SERVICE	1731	21366	44735	127864	132364	105877	131819
INCREASE (DECREASE) IN WORKING CAPITAL	-11887	-46777	23382	29972	25441	36416	42921
TOTAL APPLICATIONS	58063	249377	505260	475648	528113	566193	659186

KOREA LAND DEVELOPMENT CORPORATION
BALANCE SHEETS AT DECEMBER 31
(MILLION WON)
1982 CONSTANT PRICES

	---ACTUAL---		-----PROJECTED-----				
	1980	1981	1982	1983	1984	1985	1986
ASSETS							
CURRENT ASSETS							
CASH & TIME DEPOSITS	23557	8597	7272	8792	2071	1092	3171
ACCOUNTS RECEIVABLE ON LAND SOLD	10324	37152	39216	71804	94570	115571	135356
OTHER CURRENT ASSETS	4425	2971	3862	5021	6527	8485	11031
SUBTOTAL	38306	48720	50350	85617	103169	125149	149558
OPERATIONAL ASSETS							
LAND	53940	136641	438245	561388	688312	818083	956368
CONSTRUCTION IN PROGRESS	20371	146568	181388	181233	160848	142363	120802
ADVANCES RECEIVABLE /A	18887	28163					
TOTAL OPERATIONAL ASSETS	93198	311372	619633	742621	849160	960446	1077170
TOTAL CURRENT ASSETS	131504	360092	669983	828238	952329	1085595	1226728
FIXED ASSETS							
LAND /B		481	481	481	481	481	481
BUILDING			3084	3084	3084	3084	3084
MACHINES, FIXTURES AND EQUIPMENT	394	541	650	750	850	950	1050
(LESS) ACCUM DEPREC	180	228	290	371	477	613	784
OTHER ASSETS		268	268	268	268	268	268
TOTAL FIXED ASSETS	574	1518	4773	4954	5160	5396	5667
RESEARCH & DEVELOPMENT		11	38	41	46	50	56
TOTAL ASSETS	132078	361621	674794	833233	957535	1091041	1232813
LIABILITIES AND EQUITY							
CURRENT LIABILITIES							
A/P ON LAND ACQUIRED	2284	15991	22500	42300	51000	51600	55500
A/P TO CONTRACTORS	4312	22000	21900	21900	24000	30000	35700
CURRENT LAND DEBENT PAY		18377	55600	60000	72530	95799	290000
CURRENT LOANS PAYABLE			50000	52001	12001	3859	8251
OTHER CURRENT LIAB.	4553	5014	3070	3377	3714	4085	4490
SHORT-TERM LOAN PAYABLE						10500	26500
TOTAL CURRENT LIAB.	11149	61382	153070	179578	163245	195843	420441
LONG-TERM LIABILITIES							
LAND DEBENTURES	24443	113847	279903	279903	277373	271574	91574
WORLD BANK LOAN		1023	21023	31375	37490	38262	35280
OTHER FOREIGN LOANS					8000	16700	19942
RESERVES AND ALLOWANCES	1040	1476	1999	2627	3380	4284	5369
ADVANCES RECEIVED ON LAND SOLD UNDER CONST	11095	24150	10000	12000	13560	14196	16333
TOTAL LONG-TERM LIAB.	36578	140496	312925	325905	339803	345016	168498
TOTAL LIABILITIES	47727	201878	465995	505483	503048	540859	588939
EQUITY							
PAID-IN CAPITAL	73943	143943	183943	283943	383943	433943	483943
RETAINED EARNINGS	10408	15800	24856	43807	70544	116239	159931
TOTAL EQUITY	84351	159743	208799	327750	454487	550182	643874
TOTAL LIABILITIES AND EQUITY	132078	361621	674794	833233	957535	1091041	1232813
/A ADVANCES MADE MAINLY TO LOCAL GOVERNMENTS FOR PROJECT RELATED WORKS. LOCAL GOVERNMENTS NOT EXPECTED TO BORROW FROM KLDC AS ECONOMIC CONDITIONS IMPROVE.							
/B FOR HEADQUARTERS AND FUTURE BRANCH OFFICES.							
CURRENT ASSETS/CURRENT LIAB	11.80	5.87	4.38	4.61	5.83	5.54	2.92
LONG-TERM DEBT/EQUITY	0.29	0.72	1.44	0.95	0.71	0.59	0.23

KOREA NATIONAL HOUSING CORPORATION
INCOME STATEMENTS FOR THE YEARS ENDING DECEMBER 31
(MILLION WON)
1982 CONSTANT PRICES

	---ACTUAL---		-----PROJECTED-----				
	1980	1981	1982	1983	1984	1985	1986
NO. OF UNITS CONSTRUCTED	30106	45006	40000	60000	65000	70000	75000

REVENUES							

SALE OF HOUSING UNITS	270980	363453	574896	822326	907368	974064	1032696
SALE OF RENTAL UNITS /A	46503	49456	78970	78970	39480		
RENTAL FEES	9335	14428	17375	15168	14737	15985	17286
MANAGEMENT FEES	15808	16380	24697	26256	28332	32661	37798
INTRST INCOME ON MORTGAGES	27337	32672	44849	96412	126731	156421	141720
OTHER INCOME	3521	6794	6254	3402	3629	3852	4072
TOTAL REVENUES	373484	483183	747041	1042534	1120277	1182983	1233572

COSTS AND EXPENSES							

HSG UNITS COST OF SALES	244956	331695	538678	770520	850204	912698	967636
RENTL UNITS COST OF SALES	37208	42728	65809	65809	32904		
RENTL HSG OPERATING COST							
INCLUDING DEPRECIATION	7863	13772	15058	11687	11028	12798	14922
MANAGEMENT OF HSG UNITS	15903	16541	24697	26256	28332	32661	37798
PERSONNEL COSTS	4276	4865	4758	5519	5887	6249	6606
ADMINISTRATIVE EXPENSES	1498	2130	2275	2639	2815	2988	3159
DEPREC. ON FIXED ASSETS	110	120	270	301	361	396	462
OTHER EXPENSES	1038	700	596	692	738	783	828
TOTAL EXPENSES	312852	412551	652141	883423	932269	968573	1031411

NET INCOME BEFORE INTEREST	60632	70632	94900	159112	188008	214410	202161
(LESS) INTEREST ON LOANS	27337	32672	44849	96412	126731	156421	141720
NET INCOME BEFORE TAX	33295	37960	50051	62700	61277	57989	60441
DEFENSE TAX	3371	3842	5055	6333	6189	5857	6105
NET INCOME	29924	34118	44996	56367	55088	52132	54336
=====							
/A ASSUMES EXISTING STOCK SOLD AS PLANNED BUT NEW UNITS CONSTRUCTED AFTER 1981 ARE HELD FOR FIVE YEARS BEFORE SALE.							

RATE OF RETURN ON OPERATING ASSETS (%)	6.95	4.19	4.00	3.72	2.91	2.30	2.03
AVERAGE INTRST RATE ON BORROWINGS (%)		9.40	8.05	11.54	11.14	10.87	8.10

KOREA NATIONAL HOUSING CORPORATION
SOURCES AND APPLICATIONS OF FUNDS STATEMENTS
(MILLION WON)
1982 CONSTANT PRICES

	1982	1983	1984	1985	1986		1982	1983	1984	1985	1986
	----	----	----	----	----		----	----	----	----	----
CONSTRUCTN PLAN (NO. UNITS)	40000	60000	65000	70000	75000						
HOUSING FOR SALE	37800	56000	60000	64000	68000	APPLICATIONS OF FUNDS					
RENTAL HOUSING	2200	4000	5000	6000	7000	CONSTRUCTION PROGRAM					
						HSG UNITS FOR SALE	356578	442861	467478	486383	525078
						RENTAL UNITS	14905	20020	25878	29955	34863
SOURCES OF FUNDS						TOTAL CONST. PROGRAM	371483	462881	493356	516338	559941
INTERNAL SOURCES											
KEY MONEY PAYMENTS /A	2236	3003	3882	4493	5229	TECHNICAL ASSISTANCE /G	84	84	117	14	
DWNPYMTS ON HSG UNITS /B	142631	177144	186991	194553	210031	TNC (DEC) IN FIXED ASSETS	-815	437	241	364	-204
DWNPYMTS ON RENTL UNITS /C	33957	33957	16976	0	0	SALARIES AND ADMINISTRATION	7033	8158	8702	9237	9765
CONVERTED TO SALE						RENTAL HSG OPERATIONS	15058	11687	11028	12798	14922
MORTGAGE PYMTS-INTRST	44849	96412	126731	156421	141720	MANAGEMENT OF HSG UNITS	24697	26256	28332	32661	37798
-PRINC	10861	18093	28291	37585	44845	OTHER EXPENSES	596	692	738	783	828
RENTAL FEES	17375	15168	14737	15985	17286	TAXES	5055	6333	6189	5857	6105
MANAGEMENT FEES	24697	26256	28332	32661	37798						
OTHER INCOME	6254	3402	3629	3852	4072	DEBT SERVICE					
TOTAL INTERNL SOURCES	282860	373436	409569	445551	460982	NAT'L HSG FUND/H-INTRST	35971	81869	107169	132787	114410
						-PRINC.	10084	17035	23850	31604	37366
BORROWINGS						WORLD BANK LN /I-INTRST	610	2073	2925	2925	2681
NATIONAL HSG FUND /D	221399	275727	293426	306808	332478	-PRINC.			2635	2635	2635
WORLD BANK LOAN /E	13185	18435	75	75		FOREIGN LOANS/J-INTRST	8268	12470	16637	20709	24629
OTHER FOREIGN LOANS /F	42000	42000	42000	42000	42000	-PRINC.	777	1058	1806	3346	4844
TOTAL BORROWINGS	276584	336162	335501	348883	374478	TOTAL DEBT SERVICE	55710	114505	155022	194006	186565
RESERVES AND ALLOWANCES	2561	3073	3688	4425	5310	INCREASE (DECREASE) IN					
						WORKING CAPITAL	80543	78564	41345	22375	19740
TOTAL SOURCES	559445	709597	745070	794433	835460						
	=====	=====	=====	=====	=====	TOTAL APPLICATIONS	559445	709597	745070	794433	835460
							=====	=====	=====	=====	=====

- /A ASSUMES 15% OF RENTAL HOUSING CONSTRUCTION COST.
/B ASSUMES 40% OF DOWN PAYMENT ON LOW-INCOME UNITS CONSTRUCTED.
/C ASSUMES 43% DOWN PAYMENT, ON AVERAGE.
/D ASSUMES 60% OF NEW HOUSING CONSTRUCTION COST PLUS 50% OF RENTAL HOUSING CONSTRUCTION COST, IN ACCORDANCE WITH CURRENT PRACTICE.
/E DISBURSEMENT OF BANK LOAN 1980-KO AND TECHNICAL ASSISTANCE FUNDS UNDER THIS PROJECT, ABOUT W/6 M. PASSED ON AS A GRANT UNDER THIS PROJECT FOR MONITORING AND EVALUATION.
/F INCLUDES DISBURSEMENTS OF AID AND ADB LOANS ALREADY APPROVED.
/G INCLUDES TECHNICAL ASSISTANCE UNDER BANK LOAN 1980-KO AND UNDER THIS PROJECT.
/H NEW LOANS AT 10% OVER 20 YEARS WITH 1 YEAR GRACE.
/I 9.6%, 15 YEARS WITH 3 YEARS GRACE.
/J INCLUDES AID LOAN AT 9.5% OVER 20 YEARS AND ADB LOANS AT 7.6% AND 10.1% FOR 20 YEARS.

KOREA NATIONAL HOUSING CORPORATION
BALANCE SHEETS AT DECEMBER 31
(MILLION WON)
1982 CONSTANT PRICES

	---ACTUAL---		-----PROJECTED-----				
	1980	1981	1982	1983	1984	1985	1986
ASSETS							
CURRENT ASSETS							
CASH & DEPOSITS	11267	13833	70968	164187	234495	264831	287718
ACCOUNTS RECEIVABLE	13162	21371	67777	82857	75294	67986	69333
INVENTORY							
LAND & MATERIALS FOR CONSTRUCTION	23003	49599	74399	80350	86778	93721	101218
WORK IN PROCESS	8935	8409	12614	13623	14712	15889	17161
GENERAL STORES	829	707	1061	1145	1237	1336	1443
OTHER CURRENT ASSETS	7740	48970	9686	10461	11298	12202	13178
TOTAL CURRENT ASSETS	64936	142889	236503	352624	423814	455965	490050
FIXED ASSETS							
LAND	812	812	812	1012	1212	1412	1612
BUILDING	2531	3561	3837	4108	4373	4630	4532
(LESS) DEPRECIATION	100	152	226	305	390	483	581
MACHINERY, VEHICLES & FURNITURE	1125	1426	605	872	1009	1312	1468
(LESS) DEPRECIATION	399	585	781	1003	1279	1582	1946
OTHER FIXED ASSETS	10291	10640	10640	10640	10640	10640	10640
TOTAL FIXED ASSETS	14260	15702	14887	15324	15565	15929	15725
OPERATING ASSETS							
RENTAL UNITS	167210	208724	157820	112032	105006	134961	169825
(LESS) DEPRECIATION	3262	4173	4411	3114	1862	1258	1356
MORTGAGES	266862	429360	695083	1013152	1320362	1631660	1961293
TOTAL OPERATING ASSETS	430810	633911	848493	1122069	1423506	1765363	2129761
DEFERRED ASSETS							
	18056	22344	24578	27036	29740	32714	35985
TOTAL ASSETS	528062	814846	1124461	1517054	1892625	2269970	2671522
LIABILITIES AND EQUITY							
CURRENT LIABILITIES							
ACCOUNTS PAYABLE	32098	46217	37148	46288	49336	51634	55994
CURRENT LOANS PAYABLE			18093	28291	37585	44845	58655
OTHER CURRENT LIAB.	41054	54033	59436	65380	71918	79110	87021
TOTAL CURRENT LIAB.	73152	100250	114678	139959	158839	175589	201670
LONG-TERM LIABILITIES							
NATIONAL HSG FUND	196202	356019	550299	802176	1063998	1333440	1615918
WORLD BANK LOAN			13185	28985	26425	23865	21230
OTHER FOREIGN LOANS	65296	77598	117763	157957	196611	233767	269747
RESERVES AND ALLOWANCES	10774	12805	15366	18439	22127	26552	31863
TOTAL LONG-TERM LIAB.	272272	446422	696613	1007557	1309161	1617624	1938758
EQUITY							
CAPITAL STOCK	89709	135209	135209	135209	135209	135209	135209
RETAINED EARNINGS	92929	132965	177961	234328	289416	341548	395885
TOTAL EQUITY	182638	268174	313170	369537	424625	476757	531094
TOTAL LIABILITIES AND EQUITY	528062	814846	1124461	1517054	1892625	2269970	2671522
FINANCIAL RATIOS							
CURRENT ASSETS/CURRENT LIAB	0.89	1.43	2.06	2.52	2.67	2.60	2.43
LONG-TERM DEBT/EQUITY	1.43	1.62	2.18	2.68	3.03	3.34	3.59
OPERATING ASSETS/TOTAL ASSET	0.82	0.78	0.75	0.74	0.75	0.78	0.80

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Phase I Sites: Description of Project Cities

A. Anyang

Location

1. Anyang city is located in the central southern part of Gyeonggi-Do province and 25 km west-southwards from the central part of Seoul. It is an industrial city developed along with the Gyeongbu Line, Seoul-Suwon Industrial Road, and electric railway and is characteristic of a satellite city of Seoul exposed to the affects of Seoul's politics, economy, social affairs and cultural activities.

Population and its Forecast

2. The population of this city was 253,541 persons as of the end of 1980 and has been growing at an annual average rate of 12.6% since 1973. This results from the large inflows of population arising from the dispersion policy of industrial complexes of the capital area in the 1970s. Though its population has increased at a high rate up to 1980, the rate of increase is expected to decline and the population up to 1991 is projected to be 350,000 persons because of land development constraints, the promotion of Gwangmyeong city, and other developments in the metropolitan area.

POPULATION FORECAST

Year	Population (persons)	Increase Rate (%)	No. of Household (units)	Family size per household (persons)
1982	284,000	2.11	62,000	4.58
1986	310,000	2.25	71,000	4.36
1991	350,000	2.28	86,000	4.06

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

Housing Status and its Demand

3. The ratio of houses to households in Anyang city was less than 50% up to 1977 increasing to 64.2% due to the boom of residential construction in 1978, but there was a severe shortage of houses again in 1979 and 1980 reducing the ratios to 54.9 and 53.7% respectively.

4. It is not expected that housing supply will be able to completely erase the housing deficit in the next decade, but if 90% of the housing supply target in the Anyang Long-term Development Plan is met, there would be a 28.2% deficiency rate in 1991, as shown in the following table:

HOUSING NEED FORECAST

Year	No. of households ('000 units)	Plan of housing construction (units)	No. of houses /a (units)	Shortage ratio (%)	Land required (py)
1982	62	2,400	34,300	44.7	126,000
1986	71	2,900	45,100	36.5	152,250
1991	86	3,600	61,700	28.2	189,000

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

/a Sum of existing houses as of 1980 plus planned number of houses to be constructed.

B. Jeonju

Location

5. Jeonju City is the seat of the provincial government of Jeonlabuk-do-province, located at the center of the province. The city is 268.8 km southwest of Seoul and 98.6 km north of Gwangju. It is sited southeast of the Honam plain 40 km inland from the west coastal line, close to Eri and Gunsan cities.

Population and its Forecast

6. The annual average population growth rate in Jeonju City for the 1970s decade was 3.9% resulting in a 1980 population of 367,000 persons. However, the city expects that the growth rate will be slowed by restrictions on land development in the future. The growth forecasts are presented below:

POPULATION FORECAST

Year	Population ('000 persons)	Increase rate (%)	No. of household ('000 units)	Family size per household (persons)
1982	393	3.4	86	4.57
1986	450	3.4	103	4.37
1991	540	3.0	133	4.06

Source: "The Second Proposed Loan Project for IBRD April Appraisal";
Korea Land Development Corporation; March 1982.

Housing Status and Its Demand

7. In 1971 the total number of households was 47,663, resulting in a housing shortage ratio of the number of households totalled 72,671, and the housing shortage ratio, projected need is shown below:

HOUSING NEED FORECAST

Year	No. of households ('000 units)	Plan of housing construction (units)	No. of houses /a (units)	Shortage ratio (%)	Land required (py)
1982	78	4,300	50,200	35.6	225,750
1986	94	5,200	69,200	26.4	273,000
1991	121	6,200	97,800	19.2	325,500

Source: "Statistical Data About Land Development"; Korea Land Development Corporation; June 1981.

/a Sum of existing houses as of 1980 plus planned number of houses to be constructed.

C. Suweon

Location

8. Suweon city is located in the south central part of Gyeonggi-do province which is the central part of Korea. In the expanding Seoul city region, this city taken on the role of the southern gateway. The city is a center of land transportation as a terminal point of the express highway and the Young Dong Express Highway. It adjoins Yongin and Giheung-Guns in the east, Banwol and Maeseong-Myeons of Hwasung County in the west, Taeon Myun of Hwasung county in the south and Euiwang Myong, Shiheung county in the north respectively.

Population and its Forecast

9. During the past 10 years the population in the existing administrative districts of Suweon City grew at average rate of increase of 8.2% from 170,518 persons in 1970 to 310,757 persons in 1980. According to projections of population growth in the Seoul metropolitan area it is estimated that the population of Suweon City in 1991 will increase by 1.6 times the 1980 population to 520,000 persons.

POPULATION FORECAST

Year	Population ('000 persons)	Increase rate (%)	No. of household ('000 units)	Family size per household (persons)
1982	338	5.6	74	4.5
1986	420	5.5	96	4.3
1991	520	4.4	128	4.0

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

Housing Status and its Demand

10. The housing shortage ratio has gradually decreased since 1975 but the housing supply has not been able to meet the increasing rate of household growth. The housing shortage rate as of 1980 was 43%. The main reasons for this shortage are increased demand for housing due to the inflow of neighboring rural population to the city, and the increasing tendency toward nuclear and single person families.

11. To meet the demand for housing in 1986, the land which is needed for the housing site development (to construct apartments) totals 270,000 py.

HOUSING NEED FORECAST

Year	No. of households ('000 units)	Plan of housing construction (units)	No. of houses /a (units)	Shortage ratio (%)	Land required (py)
1982	74	4,200	48,100	35.0	220,500
1986	96	5,100	66,900	30.3	267,750
1991	128	6,100	95,100	25.7	320,250

Source: "Statistical Data About Land Development"; Korea Land Development Corporation; June 1981.

/a Sum of existing houses as of 1980 plus planned number of houses to be constructed.

D. Gangreung

Location

12. Gangreung city is situated at the central part of Yeongdong region of Gang Weon-Do and faces the eastern sea. This city is a well known location for sightseeing. It plays a central role in administration, culture, economics, social life and education in Yeongdong region.

Population and its Forecast

13. The population increased at an average rate of 5.8% for the decade of the 1970s, to a level of 117,000. Projections to 1990 are shown below:

POPULATION FORECAST

Year	Population ('000 persons)	Increase rate (%)	No. of household ('000 units)	Family size per household (persons)
1982	128	4.9	28	4.57
1986	155	4.7	35	4.43
1991	200	5.3	49	4.08

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

Housing Status and its Demand

14. Housing shortage ratio was low (26.1%) in 1976 but during the last 4 years it has increased to 37.7%.

HOUSING NEED FORECAST

Year	No. of households ('000 units)	Plan of housing construction (units)	No. of houses <u>/a</u> (units)	Shortage ratio (%)	Land required (py)
1982	28	1,700	18,500	33.9	89,250
1986	35	2,100	26,200	25.1	110,250
1991	49	2,500	37,600	23.3	131,250

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

/a Sum of existing houses as of 1980 plus planned number of houses to be constructed.

E. Gimhae

Location

15. Gimhae city located at the south-east region of Kyungsangnamdo province, adjoins Busan city to the east, and Jangyoo-Myon and Jucheon-Myong to the west. The city is the collecting center for crops produced at the Gimhae Plain which is one of the main granaries of Korea. Buma Express Highway passes through the city and Gimhae International Airport is located at the city. As a result a major function of the city is that of a transportation and distribution center. According to the national land development plan, Gimhae is part of the Busan metropolitan growth area.

Population and its Forecast

16. The annual average rate of population increase during the past 10 years was 4.5%, and an accelerated rate of increase is anticipated in the future as its satellite function to Busan city grows. This growth is forecasted below:

POPULATION FORECAST

Year	Population ('000 persons)	Increase rate (%)	No. of household ('000 units)	Family size per household (persons)
1982	76,600	4.5	13,510	5.67
1986	91,300	4.5	17,730	5.15
1991	111,100	4.0	24,670	4.50

Source: "The Second Proposed Loan Project for IBRD April Appraisal;"
Korea Land Development Corporation; March 1982.

Immigration population is anticipated to increase sharply after 1982, after elevation of its status to "City" from "Eup" and the planned reduction in travel time to Busan and Masan cities to about 30 minutes. Particularly during 1986-1996, population increase will be accelerated by:

- (a) construction of the electric railway to Busan;
- (b) industrialization of Masan, and Changweon cities; and
- (c) relatively lower land price in the city compared to those of surrounding cities.

Applying anticipated population increase rates of 4.5% until 1986, and 4% during 1987-1991, to the 1980 population (70,101), results in population levels of 91,300 and 111,100 persons in 1986 and 1991 respectively. Number of households will be 24,670 units in 1991 on the assumption that family size will be reduced from 5.95 persons in 1980 to 4.50 persons in 1991.

Housing Status and its Demand

17. Annual average increase rate of households and housing during past 6 years (1974-1980) was 2.9% and 3.4% respectively. The housing shortage ratio in 1980 was 24.6% and housing demand is anticipated to increase significantly in the near future.

HOUSING NEED FORECAST

Year	No. of households (units)	Plan of housing construction (units)	No. of houses <u>/a</u> (units)	Shortage ratio (%)	Land required (py)
1982	13,510	700	10.088	25.3	36,750
1986	17,730	900	13,438	24.2	47,250
1991	24,670	1,200	18,838	23.6	63,000

Source: "The Second Proposed Loan Project for IBRD April Appraisal;" Korea Land Development Corporation, 1982.

/a Sum of the existing houses as of 1980 plus planned number of houses to be constructed.

F. Daijeon

Location

18. Daijeon city, the seat of Choong Chungnam-Do provincial government, is located at the south-eastern side of the center of the province. The city is one of the 6 largest in Korea situated at the central point of 3 large cities, 167 km south from Seoul, 267 km north-west from Busan and 205 km north-east of Gwangju city.

Population and Its Forecast

19. The population of Daijeon city increased from 436,630 in 1971 to 651,642 in 1980 or by 5.5% per annum.

POPULATION FORECAST

Year	Population ('000 persons)	Increase rate (%)	No. of household ('000 units)	Family size per household (persons)
1982	716	5.3	156	4.59
1986	880	5.3	201	4.38
1991	1,110	4.8	274	4.05

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

Housing Demand

HOUSING NEED FORECAST

Year	No. of households (units)	Plan of housing construction (units)	No. of houses <u>/a</u> (units)	Shortage ratio (%)	Land required (py)
1982	156	10,100	97,600	37.4	530,250
1986	201	12,200	142,500	29.1	640,500
1991	274	14,700	210,000	23.4	771,750

Source: "Statistical Data About Land Development;" Korea Land Development Corporation; June 1981.

/a Sum of the existing houses as of 1980 plus planned number of houses to be constructed.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Site Summaries, Plans and Design Specifications
(Unit:py)

Phase I: Site Summaries

Site/classification	Develop- ment method	Total	Replot- ting method	Roads	Park	Public faci- lities	Commer- cial	Others	Residential	
									Middle in- come group	Low income group
Anyang Sanbon I	C.P.L.	129,912 (100.0)	-	22,844 (17.6)	6,040 (4.6)	4,231 (3.3)	5,066 (3.9)	10,185 (7.9)	37,042 (28.5)	44,504 (34.2)
Jeonju Hyoja	C.P.L	196,847 (100.0)	-	28,555 (14.5)	5,294 (2.7)	9,000 (4.6)	1,500 (0.8)	31,254 (15.8)	62,612 (31.8)	58,632 (29.8)
Suwon Gwonseon II	L.R.P.L.	218,330 (100.0)	94,925 (43.5)	62,372 (28.5)	5,206 (2.4)	9,593 (4.4)	3,858 (1.8)	3,943 (1.8)	18,593 (8.5)	19,840 (9.1)
Gangreung Noam	C.P.L.	25,000 (100.0)	-	4,135 (16.5)	453 (1.8)	-	303 (1.2)	2,092 (8.4)	10,487 (41.9)	7,530 (30.2)
Gimhae Naidong	C.P.L.	52,328 (100.0)	-	8,563 (16.4)	303 (0.6)	5,568 (10.6)	785 (1.5)	-	26,581 (50.8)	10,528 (20.1)
Daijeon Yongwoon	C.P.L.	150,000 (100.0)	-	26,574 (17.7)	5,983 (4.0)	10,122 (6.7)	2,202 (1.5)	6,323 (4.2)	66,066 (44.1)	32,730 (21.8)
<u>Total</u>		<u>772,417</u> (100.0)	<u>94,925</u> (12.3)	<u>153,043</u> (19.8)	<u>23,279</u> (3.0)	<u>38,514</u> (5.0)	<u>13,714</u> (1.8)	<u>53,797</u> (7.0)	<u>221,381</u> (28.7)	<u>173,764</u> (22.5)

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Site Summaries, Plans and Design Specifications

Project Summary and Specifications for Phase I Sites

A. Anyang Site

1. Site Characteristics

Classification. Phase I site, City Planning Law (CPL) implementation.

Location. The site is located in the Sanbon area, about 2 km south of the City Hall in Anyang. The tract is bordered on the east by the main commuter rail line linking Seoul to the industrial cities to the south, and by national highway No. 1. Transportation linkages to points throughout the capital region are excellent.

Existing Land Use. The site is predominantly agricultural land, 87% being in paddies or dry fields. The site is contiguous with a large (500,000-600,000 py) parcel in the initial stages of development by Anyang City known as Land Readjustment Project No. 8. The proposed KLDC undertaking (including a second increment in Phase II of this project) is integrated into the master plan for this broader-scale development.

Topography. Nearly all the site is at slopes of 5% or less, and is well suited for the mixed residential and commercial development proposed.

2. Design Features

Site Preparation. Although the volume of fill required substantially exceeds cut within the Phase I site limits, borrow is available immediately adjacent thereto, and average depth of fill over the site is only about 0.7 m.

Roads. Primary access from the 35 m national highway along the easterly margin of the site is complemented by a 16 m arterial bisecting the project and forming a link in the city's road master plan. Most other project roads are 6 m and 8 m. Pavement sections for the arterials are fairly deep (60 cm), dictated by the frost penetration of the area. Roads in residential areas will have lesser depth.

Water Supply. The site will be served by a 1.3 km, 250 mm trunk main extension from the city system. The distribution network on site will be 50 to 200 mm in size.

Drainage. The site is traversed by a major watercourse draining a watershed of about 10 square kilometers. Site design includes realignment and stabilization of this channel, to which all site drainage will discharge. Combined storm and sanitary flows will be collected from dwellings and street inlets and piped to the stream channel. MOC classification of this stream requires channel improvements (which include one bridge and one 5-barrel box conduit for road crossings) to be designed for a 50-year storm. However, the resulting design run-off in the channel is only 9% higher than the flow from a 20-year event. Channel embankments will be faced with stone masonry.

Electric Power. The project site will be supplied power from KECO primary transmission facilities about 1 km distant, fed from the major Anyang Substation. KECO will also install street lighting.

Community Facilities. The project contains 4,200 py designated for a primary school; other amenities include one park and six neighborhood playgrounds.

Commercial Areas. One major and two smaller commercial complexes are included, totalling about 5,100 py. The large commercial district is sited adjacent to a planned station on the commuter rail line.

Off-site Infrastructure. A cost-sharing scheme has been agreed, whereby the trunk water line between the city system and the site, as well as all the road and drainage work related to the national highway skirting the site, will be borne by the City government. The total is about 1,150 million won, roughly 12% of overall project cost.

PROJECT-FINANCED CONSTRUCTION COST FOR ON-SITE FACILITIES

Element	W'000	Percent
Earthwork	449,000	17
Drainage	553,000	21
Stream channelization	185,000	7
Roads	965,000	37
Bridge	314,000	12
Water supply	92,000	4
Park landscaping	40,000	2
<u>Total</u>	<u>2,598,000</u>	<u>100</u>

B. Jeongju Site

1. Site Characteristics

Classification. Phase I site, City Planning Law (CPL) implementation.

Location. The site is located in Hyoja Dong, 5 km south of the Jeonju industrial complex, traversed by a 25 m arterial road, connecting with national highway No. 1. Road transport linkage is excellent, as is convenience to the local railway station, 3.5 km distant.

Existing Land Use. Roughly half the site is in rice and other agricultural use, and about one third is forested slopes.

Topography. The site is located in a saddle between two small hills, but with more than half the net area at slopes less than 5%.

2. Design Features

Site Preparation. Earthwork cut and fill are balanced on site, with cut slopes stabilized with sod surfacing, supplemented by selective use of masonry retaining walls, to help optimize effective use of the steeper portions of the site while controlling earthwork scale and cost.

Roads. Basic access will be by 25 and 12 m roads; however, 80% of pavement area on site is devoted to residential streets, of which 85% are 6 m in width. Sidewalks will be provided only on the major arterials. Roads above 10 m will be asphalt concrete; those smaller will be portland cement concrete.

Water Supply. A 100 mm line from existing City system lies within the site. However, as the population of the site will increase more than tenfold upon completion of the project, a new 400 mm trunk main about 4 km long will be provided to link the area with a principal main in the City. The project demands will approach 8% of the water presently delivered by the City system; however, MOC's current Keum River water supply expansion project (due to be completed by 1984) will alleviate these capacity problems.

Drainage. Due to its basic topography, the site is well drained. A network of pipes in sizes 300 to 500 mm, supplemented by a small length of box conduit, will convey combined sanitary and storm flows to existing natural watercourses off the site. Three watersheds are involved, totalling about 148 ha.

Electric Power. An existing 22.5 kv KECO primary feeder passes to the north of the site, sustained by a transformer station in nearby Taepyong Dong. Extension of service, including street lighting, into the site presents no difficulties.

Community Facilities. The project site contains six parks and playgrounds, one primary and two middle schools. Located in close proximity to the site are two existing high schools and one middle school.

Commercial Areas. The development plan includes two areas for markets and other commercial activities.

Off-site Infrastructure. Off-site works necessary for project success are limited to the trunk water line, an investment of 400 million won, which will be paid for by the City government.

PROJECT-FINANCED CONSTRUCTION COST FOR ON-SITE FACILITIES

Element	W'000	Percent
Earthwork	1,016,000	33
Drainage	681,000	22
Retaining walls	467,000	15
Roads	691,000	22
Water supply	206,000	7
Park landscaping	33,000	1
<u>Total</u>	<u>3,094,000</u>	<u>100</u>

C. Suweon Site

1. Site Characteristics

Classification. Phase I site, Land Readjustment (LR) implementation. An initial stage of land readjustment (217,000 py) of this site was undertaken in the first land development and housing project (Loan 1980-KO). In the current project, an additional 218,000 py will be developed.

Location. The Suweon LR site is located 2 km southeast of the City Hall, in the Gwonseon area at the margin of the urbanized area. The area of this project includes two parcels adjoining the first project tract, on the south and west sides, respectively.

Existing Land Use. About 83% of the site is rice paddies or dry field agriculture, and an additional 5% is wooded. Roughly 6% of the site is in public ownership.

Topography. The site is of gently rolling terrain, with a stream meandering through the northerly portion. Most of the site lies on slopes of less than 10%, with the land nearest the stream subject to occasional flooding.

2. Design Features

Site Preparation. Low areas near the stream channel will be filled, with a typical maximum fill being about 1.3 m. Reasonable balance of cut and fill is possible.

Roads. Access to the city's urban core is excellent, in part due to infrastructure connected with the first loan project site. Road network in the site is basically an extension of overall circulation and local access roads planned in the first project. Widths are 8 to 10 m in residential areas, and wider for the arterials, with only half the width of the major streets paved at this stage. Approximately 12.5 km of the total 20.6 km roadways are 6 and 8 m streets.

Water Supply. New treatment and distribution works for the City are under construction, in part to sustain projected demands of the Gweonseon LR site(s). All trunk infrastructure off-site was installed in the first project.

Drainage. The stream meandering through the northerly tract will be realigned and provided with embankment revetments, these measures being simply an (upstream) extension of improvements built in the first project site. Other features include project drains conveying storm runoff and wastes of domestic sanitary origin, discharging into the improved stream channel or to other natural watercourses at the periphery of the site.

Electric Power. Power will be extended to project areas from a KECO 22.9 kv line which presently traverses the western margin of the site, where necessary to supplement electrical distribution facilities available to tap in the contiguous first project area.

Community Facilities. There are two existing primary schools, as well as a middle and high school, within 1 km of the site. When combined with the three school sites provided in the first project, it is felt reasonable to limit school site land in the current project to two sites totalling 9,300 py. Three parks are also included. At this site, park landscaping will be provided by the City.

Commercial Areas. Two market areas are planned for commercial development, one in each of the two large parcels comprising the project.

Off-site Infrastructure. All off-site access and services required were provided under the first project.

PROJECT-FINANCED CONSTRUCTION COST FOR ON-SITE FACILITIES

Element	W'000	Percent
Earthwork	1,151,000	25
Drainage	800,000	18
Roads and bridges	2,034,000	45
Stream channelization	190,000	4
Water supply	395,000	8
<u>Total</u>	<u>4,570,000</u>	<u>100</u>

D. Gangreung Site

1. Site Characteristics

Classification. Phase I site, City Planning Law (CPL) implementation.

Location. The site is located in the Noam area south of the Namdae River, 2 km from the city center, and approximately 2.5 km west of the industrial estate at the river mouth.

Existing Land Use. Over 96% of the site is in fields, paddies or forest lands.

Topography. The site lies in a basin between two small hills, with most of the area below 10% in slope, and much of it below 5%.

2. Design Features

Site Preparation. Sitework will involve approximately 75,300 py in cut and fill and regrading operations.

Roads. The site is bordered by a planned 35 m regional road around the southwestern quadrant of the city. On-site roads are limited entirely to 6 and 8 m streets, 86% of the length being 6 m residential access roads.

Water Supply. A 150 mm pipeline 500 m long will link the site with the existing city distribution system. On-site distribution piping totals 2.7 km.

Drainage. Piped drainage works, in sizes up to 600 mm will convey storm run-off and sanitary flows to natural channels at the northerly edge of the site, from which it will flow to the Namdae River. Basic site relief favors effective drainage.

Electric Power. KECO power and street lighting services will be extended from a nearby residential areas. With a substation located only 2.5 km to the northwest, abundant power is available for site needs.

Community Facilities. This site is favored with existing primary, middle and high schools, all being within 250 m of the tract boundaries, and thus no new facilities of this type are planned. The project includes one park and one open green space.

Commercial Areas. A single commercial area of 300 py is planned for market and similar activities serving project residents.

Off-site Infrastructure. There is no significant off-site infrastructure necessary for successful development of this site.

PROJECT-FINANCED CONSTRUCTION COST FOR ON-SITE FACILITIES

Element	W'000	Percent
Earthwork	302,000	44
Drainage	87,000	13
Roads	174,000	25
Water supply	34,000	5
Retaining walls & miscellaneous	74,000	11
Park landscaping	20,000	2
<u>Total</u>	<u>691,000</u>	<u>100</u>

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SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Site Summaries, Plans and Design Specifications

Site Characteristics and Design Features - Remaining Phase I Sites

City of dong or area development method	Gimhae Naidong (CPL)	Daijeon Yongwoon (CPL)
<u>Site Characteristics</u>		
Location	2 km from CBD of Gimhae, 15 km northwest of Busan urban area.	East of the city center, about 3 km.
Access	Main road through City traverses the site; master planned arterial skirts the site on the east.	Existing 5 m road to site from urban core will be widened to 15 m, over a length of 600 m.
Existing land use	Fields and paddies occupy 84% of site. 80 dwellings account for 7% of area.	One third of area is forested hillsides; valley floor almost entirely paddies and fields.
Topography	Entire site is on southern face of a ridge, averaging 10% slopes.	Farm land and low hills at 20-30 m elevation, with much of site fairly level. However, parts of site are at elevations over 70 m.
<u>Design Features</u>		
Roads	4.1 km of roads, all 10 m or less in width. Selected roads on the perimeter will be paved only half width in this project.	14 km of streets in residential areas, 1.3 km of main roads for access and circulation.
Drainage	Conventional gravity combined drain piping, in sizes up to 800 mm, 4 km total.	13 km of piping, and 1,200 m of box conduit, with outlet at western limit of site. Drainage basin of 332 ha.
Water supply	Local distribution piping of 4,000 m, in sizes 250 mm and smaller.	Booster pump station at trunk main entrance to site, to permit service to lots above 70 m in elevation.
Community facilities	One school site, and two parcels for parks and play-grounds.	One each primary and middle schools, one large park and two playgrounds.
Commercial areas	A single area for a market and commercial center of 800 py.	One commerical parcel will contain 2 markets, 11 shops, and dong office.
Off-site infrastructure	1,200 m of access road in widths 15 to 20 m, and 800 m of 250 mm water supply line.	600 m of 15 m access road, 1.2 km of 400 mm water line.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Site Summaries, Plans and Design Specifications

Phase I Sites: Public and Commercial Facilities

	Public buildings				Commercial areas		Telephone facilities		Total
	Police post /a	Dong of- fice /a	School /b	Cost (W mln)	Area (py)	Cost/c (W mln)	Service area (py)	Telephone cost /d (W mln)	
Anyang Sanbon I	-	-	1	500	5,066	2,533	125,641	40	3,073
Jeonju Hyoja	-	-	2	1,000	1,500	750	166,280	53	1,803
Suweon Gweonseon II	-	1	2	1,125	3,858	1,929	218,330	70	3,124
Gangreung Noam	-	-	-	-	303	152	22,908	7	159
Gimhae Naidong	1	1	1	745	785	393	52,328	17	1,155
Daijeon Yongwoon	-	-	2	1,000	2,202	1,101	145,779	47	2,148
<u>Total</u>				<u>4,370</u>		<u>6,858</u>		<u>234</u>	<u>11,462</u>
Physical contingencies									1,146
Price contingencies /e									1,719
<u>Total (W million)</u>									<u>14,327</u>

/a Police and dong offices each 80 py at W 500,000/py.

/b School costs estimated to average W 500 million/facility.

/c At W 500,000/py net floor area.

/d At W 320/py of service area.

/e At 15% base cost.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Estimated Schedule of Disbursement

(US\$'000)

Quarter	Quarter ending	Amount disbursed	Cumulative disbursement	% cumulative disbursement	Country profile
					% cumulative disbursement
1	March 31, 1983	1,480	1,480	1.5	-
2	June 30, 1983	1,520	3,000	3.0	0.9
3	September 30, 1983	3,300	6,300	6.3	-
4	December 31, 1983	6,000	12,300	12.3	6.5
5	March 31, 1984	9,600	21,900	21.9	-
6	June 30, 1984	9,600	31,500	31.5	16.9
7	September 30, 1984	9,600	41,100	41.1	-
8	December 31, 1984	9,600	50,700	50.7	31.2
9	March 31, 1985	7,800	58,500	58.5	-
10	June 30, 1985	7,700	66,200	66.2	47.5
11	September 30, 1985	7,800	74,000	74.0	-
12	December 31, 1985	7,700	81,700	81.7	63.2
13	March 31, 1986	4,600	86,300	86.3	-
14	June 30, 1986	4,600	90,900	90.9	76.3
15	September 30, 1986	4,500	95,400	95.4	-
16	December 31, 1986	4,600	100,000	100.0	86.0
17	March 31, 1987				-
18	June 30, 1987				92.7
19	September 30, 1987				-
20	December 31, 1987				97.2
21	March 31, 1988				-
22	June 30, 1988				100.0

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Urban Household Income Distribution
(Won/month)

Percentile	1980 <u>/a</u> 4th qtr.	1981 <u>/a</u> 4th qtr.	1982 1st qtr. (estimated) <u>/b</u>
10	105,728	132,389	145,628
20	139,250	167,539	184,293
30	165,308	195,636	215,200
40	189,002	226,703	249,373
50	212,950	260,849	286,934
60	244,348	293,528	322,881
70	282,904	337,232	370,955
80	335,344	402,864	443,150
90	428,363	518,749	570,624
100	810,810	816,896	898,585
Average income	247,184	297,989	327,788

/a Based on official EPB published data.

/b Estimated 10% increase over 4th quarter 1981, based on an average increase of 9% for government employees and 13.5% for employees of 2,850 private firms received during the quarter.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Summary Unit Costs for Anyang Site in Phase I
(September 1982 prices)

Item	Estimated cost/a (W m)	Cost alloca- ted to resi- dential use/b (W m)	Cost per residential ha/c (W m) (US\$'000)/f		Cost per plot/d (W'000) (US\$)/f	
<u>Land Acquisition/</u> <u>Compensation</u>	4,814.3	4,323.2	160.3	216.6	1,847.5	2,496.7
<u>Site Preparation</u>	508.7	455.9	16.9	22.8	194.8	263.3
<u>On-Site Infrastructure</u>						
Roads	1,449.4	1,301.6	48.3	65.2	556.2	751.7
Drainage	836.2	750.9	27.8	37.6	320.9	433.6
Water supply	104.2	93.6	3.5	4.7	40.0	54.1
Landscaping	45.3	40.7	1.5	2.0	17.4	23.5
<u>Off-Site Infrastructure</u>						
Water supply	94.6	85.0	3.1	4.3	36.3	49.1
Access road	1,170.4	1,051.0	39.0	52.7	449.1	606.9
<u>Housing Construction /e</u>	16,714.8	16,714.8	1,135.5	1,534.5	9,606.2	12,981.4
<u>Total</u>	<u>25,737.9</u>	<u>24,816.7</u>	<u>1,435.9</u>	<u>1,940.4</u>	<u>13,068.4</u>	<u>17,660.3</u>

/a Includes design and supervision and physical contingencies.

/b 89.8% of total marketable land use (81,546 py residential area divided by total marketable area of 90,843 py).

/c Cost apportioned to residential use divided by total residential area (26.97 ha).

/d Cost apportioned to residential use divided by number of residential plots (2,340 plots).

/e Attributable in whole to low-income residential area (14.72 ha or 1,740 plots).

/f Assumes exchange rate of US\$1 = W 740.

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Technical Assistance Program

1. The technical assistance component of the project includes: (a) training of MOC, KLDC and KNHC staff; (b) project preparation; (c) monitoring and evaluation of the project; and (d) studies in the housing sector. The estimated costs for the technical assistance program are given in Table 1. The four elements of the program are briefly described below.

Staff Training

2. This component is intended to provide primarily overseas training for MOC staff, particularly those concerned with the NHF, KLDC and KNHC staff. The programs for KLDC and KNHC staff will essentially be an extension of the opportunities provided under the first project for training in real estate planning, financing and management, engineering and construction. MOC staff will receive training in housing policy, mortgage systems and financing, capital markets and related areas.

Project Preparation

3. KLDC will engage local consultants to prepare feasibility studies and engineering designs for a third project. A similar provision under the first project was used for the preparation of studies for this project.

Monitoring and Evaluation

4. Monitoring and evaluation programs have been prepared for land development and housing by KLDC and KNHC respectively. For housing, KNHC will carry out surveys using a questionnaire and sampling strategy agreed with the Bank. In addition to analysis which KNHC will do itself, the results of the surveys will be made available to KRIHS to be incorporated in the housing information system being developed as part of the sector study under the first project. KLDC will carry out the surveys and program agreed with the Bank. These survey results will also be incorporated in the housing information system. These monitoring and evaluation programs will be continued under this project.

Studies

5. Subsidies in the housing sector, and their allocation, and requirements for and location of appropriate appraisal capacity for public development proposals are two topics which the Bank is prepared to support. Agreement on these topics and the content of the studies will be sought during negotiations.

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SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Technical Assistance Cost Estimate

Category	Agency	Quantity	Rate (US\$)	(US\$'000)	(Won) Million
1. Staff training	KLDC	lump sum		100	74.0
	KNHC	lump sum		{ 100	74.0
	MOC	lump sum			
2. Future project preparation	KLDC	330 man-months	3,000	1,000	74.0
3. Monitoring and evaluation	KLDC				
	KNHC			in-house in-house	
4. Studies and research	MOC	65 man months	3,000	200	148.0
<u>Total</u>				<u>1,400</u>	<u>1,036.0</u>

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Interest Rates Applicable to National Housing Loan Program
(%)

Type of loan	1977	Jan 1978	June 1978	May 1979	Jan 1980	June 1980	Sept 1980	Nov 1980	Jan 1981	Jan 1982	April 1982	June 1982
<u>Construction Loans</u>												
Net floor areas: 15 py or less {				14.0	17.0	17.0	17.0	15.5	15.0	13.0	11.0	10.0
: more than 15 py {	8.0	14.0	16.5	16.5	19.5	19.5	19.5	18.0	18.0	15.0	13.0	10.0
Disaster relief				11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.0
Rural house loan		14.0	16.5	16.5	19.5	19.5	19.5	18.0	18.0	15.0	13.0	10.0
<u>Site Development Loans</u>												
IBRD loan in Gwangju region	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		
Others	8.0	15.0	18.5	18.5	24.5	23.5	21.5	19.5				
<u>Individual Loans for Housing</u>												
<u>Construction</u>												
Material purchase	15.5	15.0	18.5	18.5	24.5	23.5	21.5	19.5				
Housing lottery loans	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Housing contractor loans		15.0	18.5	18.5	24.5	23.5	21.5	19.5	18.0			
<u>Loans for redevelopment and solar heating houses</u>												
				16.5	19.5	19.5	19.5	18.0	18.0	15.0	13.0	10.0

KOREA

SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT

Selected Documents and Data Available in Project Files

A. Selected Reports and Studies

1. Government Housing Policy; Ministry of Construction; April 1982 Land
2. Housing Status; Ministry of Construction
3. Master Plan for 1982 Housing Construction; Ministry of Construction; February 1982
4. Operating Plan for National Housing Fund in 1982; Ministry of Construction
5. Implementation Plan for consultants Services for Appraisal of Loan Project Pursuant to IBRD's Loan Agreement; Research Department, Korea Land Development Corporation
6. Master Plan for Public Housing Construction and National Urban Land Development; Korea Land Development Corporation
7. National Urban and Development and Housing Project; Basic Plan and Design; Korea Land Development Corporation; December 1981
8. The Second Proposed Loan Project for IBRD January Misison; Korea Land Development Corporation; January 1982
9. Housing Construction Program Under First IBRD Loan; Korea National Housing Corporation; March 1982
10. Housing Construction Program Under Second IBRD Loan (2nd Draft); Korea National Housing Corporation; March 1982
11. Housing Demand Survey; Korea National Housing Corporation; March 1982
12. Housing Project Implementation Plan under First IBRD; Korea National Housing Corporation; April 8, 1982
13. Monitoring and Supervision System for Housing Construction Project; Korea National Housing Corporation, March 1982
14. The Korea Housing Bank - Its Function and Activities - 1981

15. An overview of Korean Private Sector Housing Development and the Korea Housing Association; Koczela and Associates, Inc., April 1982

16. Study on Comprehensive Housing Data by Woo Suh Park

17. City and Site Selection Criteria

B. Project File Working Paper

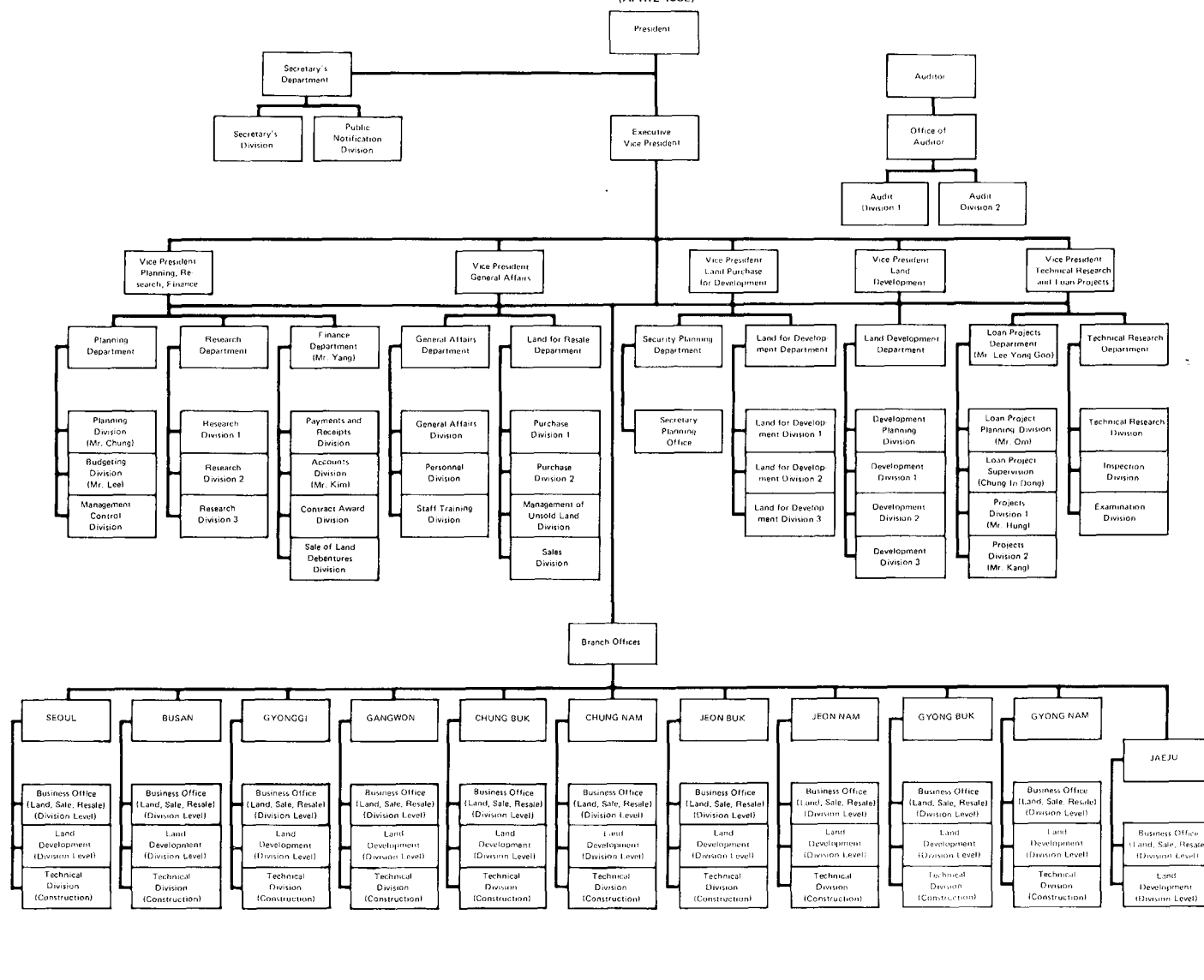
1. Financial Analysis Working Papers

2. Economic Analysis Working Papers

3. Engineering Design Working Papers

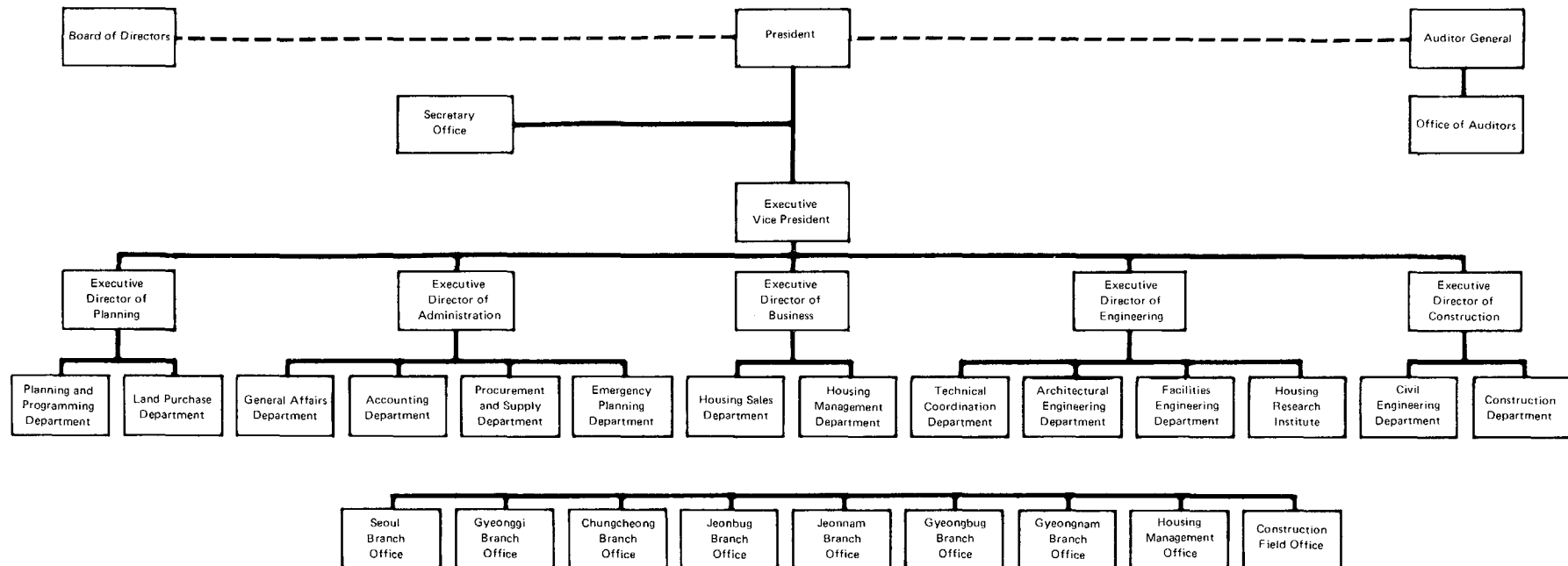
4. Bank Mission Aide Memoires and Reports

**SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT
ORGANIZATION CHART OF KOREA LAND DEVELOPMENT CORPORATION
(APRIL 1982)**



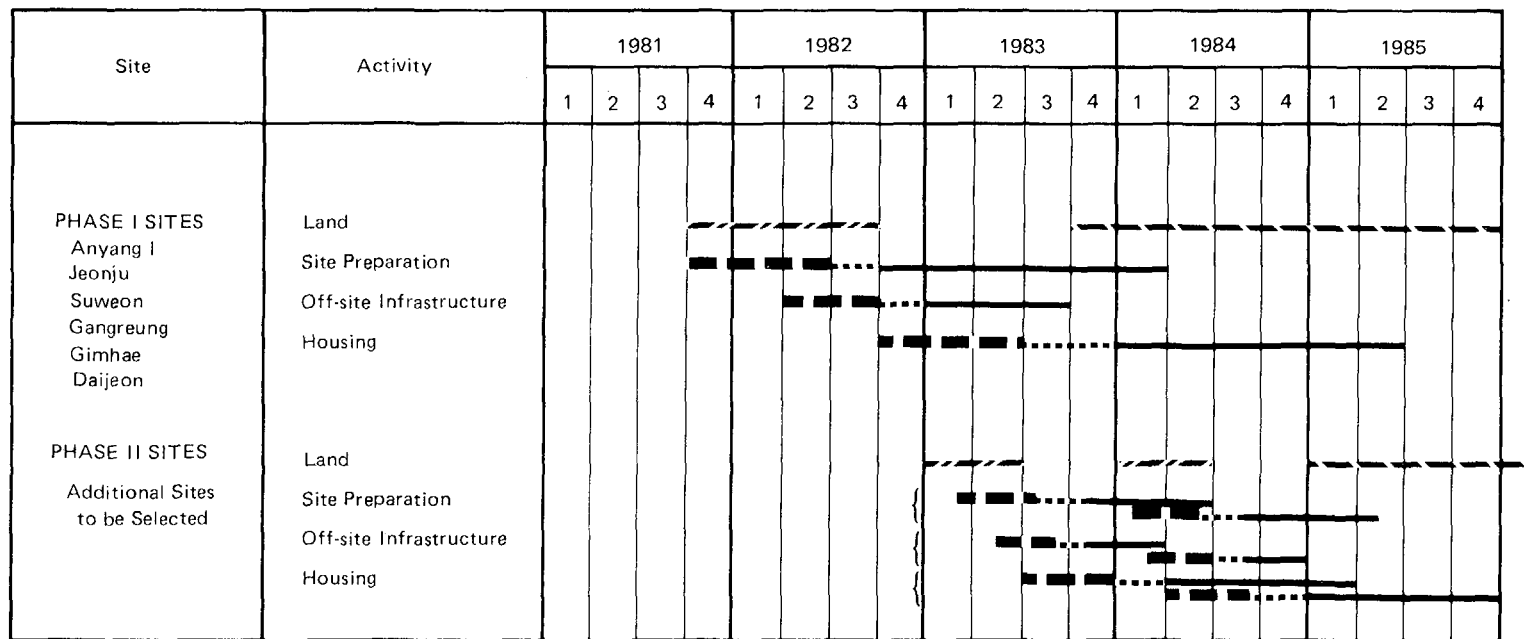
	Executive	Administrative	Technical	Support Staff and Others	Totals
Head Office	8	200	104	80	392
Branch Office	-	243	179	61	483
Totals	8	443	283	141	875

**SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT
ORGANIZATION AND PERSONNEL OF THE KOREA NATIONAL HOUSING CORPORATION
(MARCH 1982)**



Description	Executive Personnel	General Administrators	Engineers	Technicians	Total
Numbers	8	611	1,053	568	2,240

KOREA
SECOND URBAN LAND DEVELOPMENT AND HOUSING PROJECT
PROJECT IMPLEMENTATION PLAN

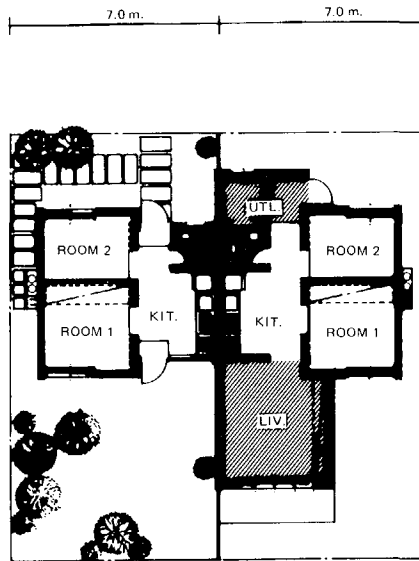


Legend:

- Land
- /// Purchase/Compensation
- Sales
- Land Preparation and Housing
- Design
- Tendering
- Construction

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SECOND NATIONAL URBAN LAND DEVELOPMENT AND HOUSING PROJECT
TYPICAL HOUSE PLANS

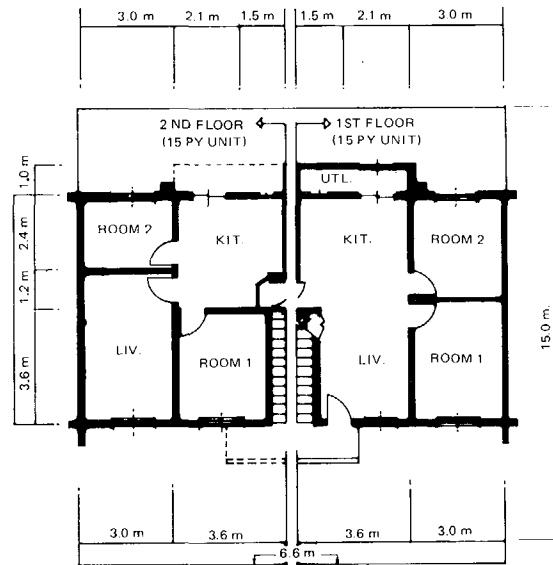


■ FUTURE
EXTENSION

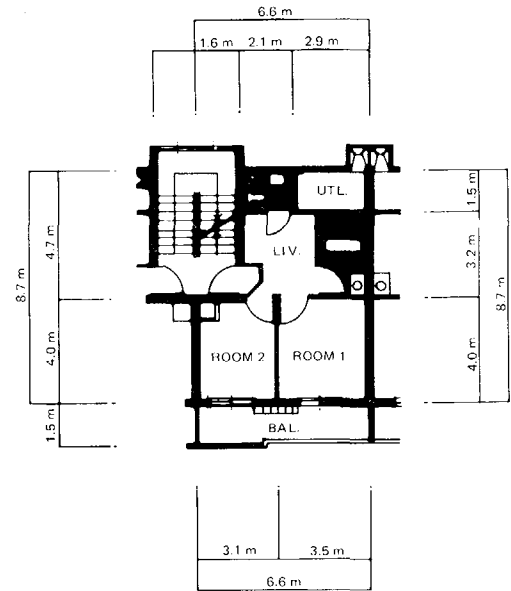
BEFORE EXTENSION ← → AFTER EXTENSION

12 → 18 PY. FLOOR PLAN

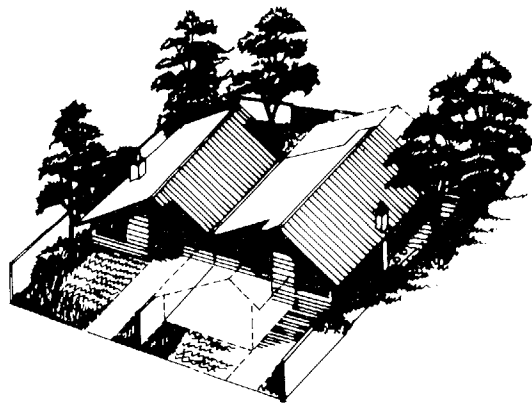
13.5/14.0 m



FLOOR PLAN OF TYPICAL ROW HOUSE

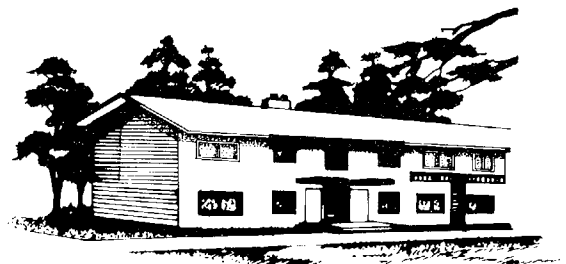


15 PY. APARTMENT UNIT PLAN



EXPANDABLE CORE HOUSES

12 Pyong Expandable to 18 Pyong
Lot Size: 12 → 18 Py. Units; 30 Py.



TWO STORY ROW HOUSES

Lot Size 15 Py. Units; 30 Py.
Per 2 Units:



5 STOREY WALK-UP APARTMENTS

Lot Sizes 15 Py. Units; 18.8 Py.
Per 5 Units: 17 Py. Units; 21.5 Py.

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